

**DISSERTATION
ON
A STUDY TO ASSESS THE EFFECTIVENESS OF
LAUGHTER THERAPY ON STRESS AMONG
SCHOOL TEACHERS IN SELECTED
SCHOOLS AT CHENNAI.**

**M.Sc (NURSING) DEGREE EXAMINATION
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ABSTRACT

Teaching profession has been regarded as the noble profession. Teaching was no longer merely hard work; become a highly stressful profession. Every coin has two faces and this thing goes with stress also. Stress can have both positive and negative aspects. Laughter is surely the best medicine! Best of all, this priceless medicine is fun, free, and easy to use. With work stress on the rise, laughter therapy sessions are gaining more attention worldwide. Laughter promotes positive emotions that can enhance – not replace -- conventional treatments. Hence it was a tool available to fight the stress level. **Title:** “A study to assess the effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai”. **Objectives:** To assess the pre test and post test level of stress and find out the effectiveness of laughter therapy, and to associate the post test stress score with their selected demographic variables. **Methods and materials:** A pre experimental design was chosen. Non probability purposive sampling technique used to select the sample. Sixty school teachers were the sample. Perceived stress scale was used to assess the teachers stress level. **Results:** In pre test, the school teachers stress score was 22.37, after administration of laughter therapy, the post test stress score was 13.77. So the mean difference was 8.95. It was statistically significant at $p < 0.001$ level.

Conclusion: Statistical significance was calculated by using chi square test and student independent t-test. So Laughter therapy has significant impact in reducing the stress among school teachers. Laughter therapy is safer and more effective intervention in all settings.

Key words: Stress, School teachers, Laughter therapy.

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LIST OF ABBREVIATIONS

S.NO	ABBREVIATION	EXPANSION
1	ANOVA	Analysis of Variance
2	B.Sc	Bachelor of Science
3	BDI	Beck's depression scale
4	BT	Beginning teachers
5	CCU	Cardiac care unit
6	CI	Confidence Interval
7	DF	Degree of Freedom
8	GNM	General Nursing Midwifery
9	ICU	Intensive care unit
10	IRB	Institutional Review Board
11	IT	Information Technology
12	M.Sc(N)	Master of Science in Nursing)
13	NS	Not Significant
14	ODL	open distance learning
15	OSI	Occupation stress index
16	P	Probability(Lev El Of Significance)
17	PGIMER	Post Graduate Institute of Medical Education and Research
18	PSS	Perceived stress scale
19	QEEW	Questionnaire on the Experience and Evaluation of Work
20	QEEW-BT	Questionnaire on the Experience and Evaluation of Work for Beginning teachers
21	RMCH	Rohilkhand Medical College and Hospital.
22	SATQ	Stress Among Teachers' Questionnaire
23	SD	Standard Deviation
24	SES	Socio economic status
25	TESI	Tension and Effort stress inventory
26	UK	United Kingdom
27	WHO	World Health Organization

CHAPTER –I

INTRODUCTION

“A teacher is the image of Brahma”

--Manu

The teacher is a dynamic force of the school. A school without teacher is just like a shadow without substance. A teacher is an acknowledged guide or helper in the process of learning. ¹.No development had been possible if there had been no teacher².According to Maggie Gallagher **“Of all the hard jobs around, one of the hardest is being a good teacher”**³.A teacher is a person who helps the students to accomplish knowledge attitudes and values, who is also called a school teacher or, in some contexts, an educator⁴.

Teachers are more socially responsible as compared to any other profession. They acts as a second parent and guide to the youth of the nation⁵. Teaching profession had been regarded as the noble profession. Many Leaders, Scientists, Administrators, Advocates, Engineers and Politicians are created by the teachers. Teaching is no longer merely hard work; it has become a highly stressful profession⁶

Every coin has two faces and this thing goes with stress also. Stress can have both positive and negative aspects. When it is treated like a servant (means minimal amount of stress), it helps the individual to upgrade their performance but when it becomes master (means larger amount of stress) it deteriorates the performance of the individual. Hence, stress is like best friend or worst enemy⁵.

In 1936, **Hans Selye** was the first person to introduce the concept of stress in life sciences. It was taken from the word ‘string ere’ of Latin language, it mean undergoing the experience of physical hardship, torture, pain and starvation. According to him the definition of stress was defined in 1956 **“the non-specific response of the body to any demand placed upon it”**⁷.

In 1983 stress was called as **“Epidemic of Eighties”**. According to American institute of stress, it was America’s number one health problem. Various 20th century researchers contributed to several different concepts of stress. Three of these concepts

include ‘stress as a biological response’, ‘stress as an environmental event, and stress as a transaction between the individual and the environment’⁹.

According to **Kyriacou** (2000) teachers stress is “the experience of unpleasant tension, frustration, anger and depression resulting from their work”¹⁰. Some of the major sources of stress among teachers are Financial Constraints, Workload, No Acknowledgement, Promotion and Position, Jealousy, Thinking too much about the result. Having a balance in life is very important for happiness, contentment and stress free life and it can increase the efficiency¹¹.

In general, students are the pillars of future and other hand the teachers are the foundation for building the society and for the future of an entire country. Therefore they have to be free from all kinds of hurdles and must be stress free. The acronym of a humanistic teacher.

T-----TEMPERANCE/TACT
E-----EMPATHY
A-----ACADEMIC ARISTOCRACY
C-----COMMITMENT
H-----HUMOR/LAUGHTER
E-----EAGERNESS, EFFICIENCY, AND ETHICS
R-----REFLECTION.

A Teacher should never make the mistake of laughing at the students. The teacher should laugh with students and also see that they laugh with her and not at her¹. Laughter is important for our life. When laughter is shared, it binds people together and increases happiness and intimacy¹². Laughter has positive, quantifiable physiological and psychological effects on certain aspects of health¹³.

According to **Ong & Van Dulmen**, 2006 Laughter can be defined as a **vocal-respiratory-behavioural response** that involves various sets of muscles, specific movements, facial and vocal expressions, which is usually not involuntary, but it can be¹⁴. Laughter – is surely the best medicine! Best of all, this priceless medicine is fun, free, and easy to use. With work stress on the rise, laughter therapy sessions are gaining more attention worldwide¹⁵.

“Laughter produces endorphins and eases pain, washes stress and dilates blood vessels”. There is evidence that a laughing person has less chances of having hypertension, peptic ulcer, diabetes, depression, and heart and brain attack¹⁶.

Laughter therapy is one of the best antidotes to stressful situations. When confronted with a threatening situation, animals have two choices-they can flee or fight. We humans have a third alternative i.e. to laugh. Laughter in a stressful situation can change the response to the threat. Laughter allows us to distance ourselves by replacing paralyzing feelings of anxiety with mirth. Laughter offers the further benefits of reducing stress hormones by reducing anxiety, improving circulation, producing a general sense of well-being and boosting immune function¹⁷.

1.1 NEED FOR THE STUDY:

The pressures of modern life, coupled with the demands of a job can lead to emotional imbalances. Stress makes life monotonous and helpless¹⁸. World wide, teachers are experiencing high level of stress every day. This reduces the physical stamina as well as the mental stamina followed by irritability, tension, emotional exhaustion, and further consequences. The stress impact affects the effectiveness of teaching as well as students learning. So the teachers need effective intervention to overcome the situation.

Global scenario:

The WHO has announced, stress has become a **‘World Wide Epidemic’**. According to Health and Safety Executive Statistical survey by UK Government 5,26,000 Workers suffering from work-related stress in last year. Among them the Professional occupation category had higher significant rate of work-related stress than the other occupations, especially teaching professionals suffered by workplace stress was 2640 /1,00,000 workers¹⁹. American Institute of Stress explored currently 80% of workers feel stress on the job and nearly half say they need help in learning how to manage stress and 42% said their co-workers need such help²⁰. A cross sectional survey conducted among 103 school teachers in Turkey revealed that, all the school teachers were experiencing moderate level of stress and they need some coping strategies to overcome stress²¹.

Indian scenario:

Nearly 9 in 10 Indians suffer from stress. In fact, the recently released findings of the 2018 Cigna 360 Well-Being Survey, stress levels are high in India compared with other developed and emerging countries²². A cross sectional survey conducted among 338 teachers from rural, urban and semi urban area schools of West Bengal in India revealed that 12.42% teachers (42) were severely stressed, 37.57% teachers were mildly stressed (127) and 26.33% (89) teachers were moderately stressed²³.

Tamil nadu scenario:

In Tamil Nadu 30,134 male and 77,728 female teachers are working. Among them 34,824 teachers are in Private Schools. More than 2/3rd of the teachers are women, having 67.6% of stress²⁴. Out of 229 schools in Coimbatore district, 82 were government schools, remaining 147 were private schools. Sample selected by random technique in 301 teachers, 171 were suffered by Mild Stress, 51 with moderate stress and 79 with severe stress. The study pointed high level of stress in two of every five teachers in 2016-2017²⁵.

Chennai scenario:

A study by Harish et al. (2018) among 500 school teachers from Chennai and its outskirts of both private and government schools, the government aided school teachers having the stress score of (126.21) was lower than private school teachers (143.72) and the male and female teachers stress score ratio was 31.73:145.36. The study revealed that the teachers working in private secondary schools have substantially higher levels of occupational stress as compared to their counterparts working in government aided secondary schools. The female secondary school teachers have widespread higher levels of occupational stress when seen to their male counterparts²⁶. Ophelia Janefer reported that 8TH – 12TH Std. School Teachers in Selected Schools in Chennai affected by stress due to student's behaviour, waking up late, the class strength / number of students they handle, inadequate facilities, and administrative pressure etc²⁷.

Many studies had been done to examine the prevalence of stress and major sources and determinants of work stress among school teachers. The health of teacher could be seriously affected by stress. The teachers mental health as well as physical

health were important for the improvement of the educational Institution as well as the country. Hence the teachers need effective coping strategies for overcome or influencing the stress level. One of the important stress bursting measures was laughter therapy.

“Always laugh when you can, it is cheap medicine”

Lord Byron (2010)

Laughter has been applied in many environments. Over 30 years ago, it was first suggested that laughter might be used as a positive complement for medicine, for instance. It has been suggested that it could have potential medicinal benefits and a positive anti-stress effect¹². Laughter lightens the burdens, inspires hopes, connects to others and keeps alert. Laughter is linked with the activation of the Ventra medial prefrontal cortex which produces endorphins suppresses stress hormones¹⁵

1.2 STATEMENT OF THE PROBLEM:

“A study to assess the effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai”.

1.3 OBJECTIVES:

- To assess the pre-test level of stress among the school teachers by using a perceived stress scale.
- To evaluate the effectiveness of laughter therapy on the level of stress among the school teachers.
- To determine the post-test level of stress among the school teachers.
- To associate the post test level of stress with their selected demographic variables

1.4 OPERATIONAL DEFINITIONS:

Assess:

Assess refers to the statistical analysis of the information gathered through rating scale to monitor level of stress among school teachers.

Effectiveness:

It refers to the expected outcome of laughter therapy on reducing stress among school teachers.

Laughter Therapy:

It refers to a therapy, which we laugh to relieve stress, and to improve emotional well being in order to facilitate improvement in health ,as it reduces the release of stress hormones like adrenaline, epinephrine.

Stress:

Stress is the arousal response to any demand or change, experienced by the teachers within the school environment.

School:

A School is an educational institution designed for the students to learn under the direction of teachers.

School Teachers:

In this study, school teacher is a person who provides education for pupils or students at school level.

1.5 ASSUMPTIONS:

The proposed study assumes that

- School teachers have some level of stress
- School teachers interested to learn laughter therapy
- After laughter therapy the stress level would be reduced.

1.6 HYPOTHESIS:

- ✓ There will be significant difference between pre test and post test level of stress among school teachers.
- ✓ There will be significant association between the post test level of stress among school teachers with their selected demographic variables.

1.7 DELIMITATIONS:

- ❖ The data collection was limited to 4 weeks
- ❖ The samples were selected in selected schools only.
- ❖ Teacher's age group within 25-45 years.
- ❖ Small size samples.

CHAPTER-II

REVIEW OF LITERATURE

A review of literature on the research topic makes the researcher familiar with the existing studies and previous information that helps to focus on a particular problem and lay a foundation for new knowledge. It also helps to guide the investigator to design the proposed study in a specific manner so as to achieve the desired results.

According to **Suresh.K Sharma 2015**, Literature review is defined as a broad, comprehensive, in depth, systematic and critical review of scholarly publication, unpublished printed audio or visual materials and personal communications²⁸.

This chapter consists of two parts.

Part I: 2.1 Literature review related to study.

Part II: 2.2 Conceptual frame work

2.1. The related literature review for the study is divided into three parts.

2.1.1 Review of literature related to prevalence of stress among teachers

2.1.2 Review of literature related to effectiveness of laughter therapy

2.1.3 Review of literature related to effectiveness of laughter therapy on stress

2.1.1 REVIEW OF LITERATURE RELATED TO PREVALENCE OF STRESS AMONG TEACHERS

Harmsen, Lorenz, Maulana, Vanveen, (2018) conducted a study to adjust the Questionnaire on the Experience and Evaluation of Work (QEEW) in order to measure stress causes and stress responses of beginning secondary school teachers in the Netherlands. First, the suitability of the original QEEW stress scales for use in the beginning teachers (BTs) context was investigated using a sample of 356 beginning teachers from 52 different secondary school locations in the Netherlands. To cross-validate the results and to examine the internal consistency and validity of the adjusted instrument a different sample of 143 beginning teachers from 61 different secondary school locations in the Netherlands was used. The findings of the study provide

adequate support that the QEEW-BT is a reliable and valid instrument to measure stress causes and responses for beginning secondary school teachers in the Netherlands²⁹.

Jessica R. Danile witz (2017) conducted a study examined the experience of teachers' Quality of Life and stress, samples obtained from a comprehensive online survey of female full-time elementary and secondary school teachers across Canada (n = 227). Results demonstrated that Quality of Life and stress scale scores were lower in the study as compared to previously published community sample literature. Of the three sources of stress, personal life stress emerged as the single significant predictor of general health Quality of Life, and personal life stress and work-life stress scores were found to be significant predictors of psychological health Quality of Life³⁰.

Manpreet Kaur, Rajesh Kumar(2017) conducted a study of Occupational stress among teachers is not only evidenced from the large body of studies on the subject but also through factors that predispose educators to work related stress. The sample consisted of 398 teachers, 31.9% males and 68.1% females, from urban centre, New Delhi, India & the measures included the National Stress Awareness Day Stress Questionnaire and a self-report questionnaire designed. The study results showed that with 52% public and rest private school employees, stress levels were found to be high among 28% (111 participants) of the sample. All demographic variables, Socio Economic Status (SES) categories, promotional and experience factors were contributing significantly to the stress prediction model but age group, work experience and promotion opportunities were reported as prime explanatory variables for the model ($p < 0.05$)³¹.

Pijus Kanti Bhuin(2017) conducted a Study on Work-related Stress among the Teachers and Administrators of Privately Managed Business Schools in West Bengal. Samples were selected from 45 privately managed institutes using stratified purposive sampling technique got average 12 – 13 faculty members per institute i.e., 110 respondents. Tools Used for the Measurement of the Variables: Occupational Stress Index (Srivastava and Singh, 1981) is used for measuring work-related stress. Adopted OSI consists of 38 items, each to be rated on the five-point Likert Scale. The

study does not consider any open distance learning (ODL) mode of educational institutes³².

Solomon et.al(2017),conducted a study to assess the level of stress among school teachers in selected schools at Vellore,adopted non experimental research design with 80 higher secondary school teachers were selected by using convenient sampling technique from two schools of Vellore District. The study results showed that a majority of teachers i.e. 34 (42.5%) had moderate level of stress followed by 23 (28.75%) of teachers had mild stress and severe level of stress respectively. The study results also revealed that educational status and years of experience had statistical significance with level of stress at $p < 0.05$. The study finding reveals the importance of being self-aware about stress and taking steps to keep it under control by using various stress management techniques².

Manabete, John, Makinde & Duwa (2016) conducted a research on job stress among school administrators and teachers in Nigerian secondary schools and technical colleges. They examined stress, job or workplace stress among teachers in Nigeria. Findings revealed that role ambiguity, poor relations with boss, work overload are the main sources of stress among teachers. In addition,this study concluded that teachers and school heads need to make use of time efficiently, taking time not to bother about things they cannot change, and having a positive outlook on life³³.

Simone, Cicotto, Lampis (2016)conducted a study from a sample of 565 teachers working in different upper secondary schools in Italy investigated the relationship between occupational stress, job satisfaction and physical health in Italian teachers. The booklet filled by the teachers consisted of 32 items that measure perceived occupational difficulties, job satisfaction and physical symptoms.The results showed that workload, perception of work environment, teachers' perceptions of senior management and attitude towards change are specific perceived occupational difficulties of the Italian teachers.The results suggest for stress and its consequences can be reduced and prevented through an accurate identification of its sources, with a positive effect on individual and organisational health³⁴

Waqar M Parray, Dr. Sanjay Kumar, Dr. Purnimawasthi,(2016)conducted a study was an attempt to discover the stress levels of the teachers working in various

organisations. The study thoroughly covered stress among teachers Working in University, secondary schools, elementary schools and various other organisations. The studies conducted by the researchers have revealed that the teaching profession is no more the profession of a little stress. Neck to neck competition in all fields is now reality in the era of Globalisation where whole world is competing with each other. Researchers have suggested several ways to put check over the unjustified stress to promote sound health and well-being. Future researches may suggest some intervention strategies to manage the stress effectively³⁵.

Demjaha, Bislimovska & Mijakoshi (2015) examined the level of work related stress among teachers in elementary schools. The findings revealed that the majority of interviewed teachers perceived their work-related stress as high or very high. In terms of the relationship between the level of teachers' stress and certain demographic and job characteristics, the level of work related stress has shown significantly high relation to gender, age, levels of grades taught as well as working experience, and significant relation to the level of education³⁶.

Naveen Kumar Pandey Dr. Abhay Saxena(2015) conducted a teachers stress review study in national & international scenario The aim of this research paper is to critical review the existing literature on occupational stress of a teacher and explores its findings to develop a new insights and future directions for further research. This research paper has segmented in four sections Introduction, Review of literature, Comparative Table and Conclusion section. 15 Research paper has been collected for the review, Out of these ten are Indian work and remaining five from overseas. The researcher has tried to display all the existing literature findings in a comparative tabular format for the clarity, which assists other for further research in this particular field³⁷.

Ghania, Ahmad & Ibrahim (2014) studies the stress among special education teachers in Malaysia. A total of 92 special education teachers were chosen randomly to represent the population by using the cluster over cluster method. The instrument for this study was adapted from the Teacher Stress Inventory- Five Point Likert-Type Scale. Result indicates that the overall stress level of respondent is at moderate. Among the five stressors, pupil mis behaviour is the strongest determinant of teacher

stress with a mean of 3.70. Other factors are teacher workload (mean = 3.22), time and resources difficulties (mean = 3.11), recognition (mean = 3.05), and interpersonal relationships (mean = 3.00) respectively. The result also indicates that there is no significant difference of work stress among the respondent based on gender, marriage status, and highest academic qualification. Furthermore, the result of this study failed to indicate a significant correlation between teacher stress and demographic factors such as age, length of teaching experience, and the respondents' monthly salary³⁸.

Hasan (2014) study an attempt was made to compare teachers' occupational stress of primary government and private school teachers of Tehsil Laksar, District-Haridwar. A sample of 100 teachers was selected, 50 each from government and private schools. Teachers' Occupational Stress Scale constructed and standardized by Dr. Sajid Jamal and Dr. Abdul Raheem was administered. Findings revealed that in general, the primary school teachers have found to be highly stressed. Moreover, the private primary school teachers have also found to be highly stressed in comparison to their government primary school teacher counterparts t-value is 2.41 which is significant at 0.05 level³⁹.

Ekundayo & Kolawole (2013) conducted study entitled "stress among secondary school teachers in Ekiti State, Nigeria". They examined the various sources of stress and also examined the coping strategies adapted by the teachers. The sample was however made up of 180 teachers from 20 secondary schools across the three senatorial districts of the State. Stratified and simple random sampling techniques were used to select the sample. A self-designed instrument tagged 'Stress Among Teachers' Questionnaire (SATQ) which was validated by research experts in Tests and Measurement was used to collect data for the study. A test-retest method of reliability was used and a reliability coefficient of 0.79 was got using the Pearson product moment correlation..The results revealed that poor working conditions, poor relations with super ordinates and late payment of salaries were major sources of stress. The study also revealed that managing one's time effectively is the main strategy for coping with stress⁴⁰.

Jayaraj(2013) Occupational Stress among the Teachers of the Higher Secondary Schools in Madurai District, Tamil Nadu The aim of the study is to

determine the Occupational Stress level of Government and Aided Higher Secondary School Teachers living in different socio-cultural and economic situations. The scale used in the study has been developed by researches. 185 Aided school teachers and 120 Government teachers have participated in the present study. At the end of the study it was seen that Aided school teachers have more occupational stress levels than Government school teachers. There is a meaningful difference in the stress level points of Government and Aided Higher Secondary Teachers. Policy makers are advised to analyse the teacher training and assessment system with the assumption that personal and social characteristics and working conditions may have an effect on teacher occupational stress. Results also showed that teachers who reported greater stress were less satisfied with teaching, reported greater frequency of absences and a greater number of total days absent, were more likely to leave teaching (career intention), and less likely to take up a teaching career again (career commitment). Implications for further research are also discussed⁴¹.

Reddy & Anuradha (2013) conducted a study on occupational stress of teachers working at higher secondary level. 327 higher secondary teachers from Vellore District in Tamil Nadu were chosen as sample, by using Simple Random Sampling Technique and administered with an Occupational Stress Rating Scale. They revealed that 249 (76.1%) teachers are experiencing moderate level of stress, followed by 42 (12.8%) teachers with high stress and 36 (11.0%) teachers with low stress. Researchers suggested some measures which could prove beneficial to teachers in coping with stress. The measures includes improve self esteem, build self confidence, develop a good sense of humour, practice yoga and meditation, exercise regularly, foster a supportive friend circle⁴².

Talafhah (2013) conducted a study aimed to define the level of stress in the workplace among teachers who teach social studies in primary schools in Amman, Jordan, along with its consequential implications.. The study sample consisted of 228 teachers from four directorates of education in Amman. The results showed that the work-related stress was high in terms of the overall performance were significant differences attributed to the variable of gender in favour of male teachers and the variable of experience in favour of teachers with moderate experience (5-10 years).

However, there were no significant differences in terms of the variable of qualification. The most common problem was the physical fatigue, and the least common problem was the sleep disorder⁴³.

Al-Hajaya (2012) aimed to find the occupational stress among secondary school headmasters and its effect on their creativity in Southern Jordan. The study sample consisted of 205 headmasters. The study found out that there were no statistically significant differences due to the variable of administrative experience in favour of administrative experience (5 years or less)The study recommended that the Jordanian Ministry of Education should exert greater efforts towards occupational stressors to end them, since they have adverse impacts on headmasters' creative activities⁴⁴.

Boyland's study (2011) aimed to figure the work-related stress among the primary school headmasters in the American Indiana State endeavoured to look at the significant differences in sample consisted of 140 headmasters, used the descriptive, analytical method in the study, which used a effective ways to cope with mental burnout. The study recommended the need to use effective measures to help school administrators overcome burnout and strike balance between work and time⁴⁵.

2.1.2. REVIEW OF LITERATURE RELATED TO EFFECTIVENESS OF LAUGHTER THERAPY:

Proyer(2018)The main aim of this overview is to discuss theoretical work and empirical studies on the proposed association between humor and playfulness of personality trait in adults is presented. The latter differentiates among four facets; namely, Other-directed, Light hearted Intellectual, and Whimsical. One methodological problem is highlighted in particular: Items such as “I have a good sense of humor” are to be found in both, measures for the sense of humor and playfulness and sometimes used as both predictor and criterion in the same analysis. Overall, there is evidence that the proposed overlap between humor and playfulness exists, but that it does not indicate redundancy⁴⁶.

Maheswari.K(2017)conducted a study used to assess the effectiveness of laughter therapy on depression among adolescence in selected college The research

design and approach adopted for this study was pre experimental with one group pre and post test research design with quantitative approach 74 samples were collected by using purposive sampling technique. Beck's depression scale (BDI) was created by Dr. Aaron T. Beck self-report inventory were used to assess the effectiveness of laughter therapy among the adolescence. Laughter exercise was implemented for 15-20 minutes daily once for 7 days and post test was done. The collected data was organized, tabulated and analyzed by using descriptive statistics. The pre test score was 65% and post test score was 51% and the significance is 14% reveals that the reduction in the level of depression after implementation of laughter therapy⁴⁷.

Savage BM, Lujan HL, Thipparthi, DiCarl SE(2017) discuss the history and relationship between humor, laughing, learning, and health with an emphasis on the powerful, universal language of laughter review health care providers and educators may utilize the power of laughter to improve health and enhance teaching and learning. This is an important consideration because teaching is not just about content: it is also about forming relationships and strengthening human connections⁴⁸.

Dhivagar, Prabavathy, Renuka, K.(2016) and indicates that laughter therapy was significantly effective in reducing stress and anxiety among elderly at selected old age home, Puducherry. The Pre- experimental study with one group pretest and posttest design was conducted among 60 elderly of Hospice using simple random sampling technique. The study result showed that out of 60 elderly, the post-test level of stress median score (17.5) was significantly less than the pre-test level of stress median score (23.5) by using Wilcoxon Signed Ranks test. Thus this study proves that "Laughter therapy was effective in reduction of Stress and Anxiety among elderly", who residing in Old Age Home⁴⁹.

Jaya Raj.A(2016) study to evaluate the effectiveness of Laughter therapy on depression among elderly adopted pre-experimental approach by non-probability purposive sampling technique and the sample consists of 40 elderly the findings shows that none of the elderly persons had normal level of depression in pre test and 10(25%) of them had normal level of depression after administration of laughter therapy, 8(20%) of them had mild level of depression in pre test and 30(75%) in the

post-test, and 32(80%) of them had severe level of depression in pre test but none of them had severe depression after administration of laughter therapy⁵⁰.

Kuru N,Kublay.G(2016) conducted a study to evaluate the effect of Laughter therapy on the quality of life of nursing home residents. The quasi experimental group design with 32 nursing home residents from one nursing home, while the control group consisted of 33 nursing home residents from another nursing home in the capital city of Turkey. Laughter therapy was applied with nursing home residents of the experimental group two days per week (21 sessions in total. After the laughter therapy intervention, general and subscales (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and spiritual health) quality-of-life scores of residents in the experimental group significantly increased in comparison with the pre test⁵¹.

Yim J.(2016) Therapeutic Benefits of Laughter in Mental Health Review Laughter is a positive sensation, and seems to be a useful and healthy way to overcome stress. Laughter therapy is a kind of cognitive-behavioral therapies that could make physical, psychological, and social relationships healthy, ultimately improving the quality of life. Laughter therapy, as a non-pharmacological, alternative treatment, has a positive effect on the mental health and the immune system. laughter therapy is effective and scientifically supported as a single or adjuvant therapy⁵².

Demir.M(2015) Effects of Laughter Therapy on Anxiety, Stress, Depression and Quality of Life in Cancer Patients Another randomized controlled study involved 31 breast cancer patients who received four sessions of the therapeutic laughter program and 29 breast cancer patients who were assigned to the no-program control group. After the first therapeutic laughter session, patients' anxiety, depression and stress levels decreased significantly in the experimental group. There was no change in the control group. In conclusion, this study reported that laughter therapy was effective after only a single session in reducing anxiety, depression and stress in breast cancer patients¹³.

Ghodsbin,Ahmadi(2015)In a randomized controlled trial,72 senior citizens aged 60 and over the participants were assigned into experimental (N=36) and control (N=36) groups attended a laughter therapy program consisting of two 90-minute

sessions per week lasting for 6 weeks found a statistically significant correlation between laughter therapy program and factors such as general health, somatic symptoms, insomnia and anxiety. They concluded that laughter therapy can improve general health and its subscales in elderly people⁵³

Kim SH, et al (2015) conducted a randomized controlled trial to assess the effects of laughter therapy on mood state and self-esteem in cancer patients undergoing radiation therapy in a radio-oncology outpatient setting. 62 patients were randomly assigned to the experimental group (n=33) or the wait list control group (n=29). Three laughter therapy sessions lasting 60 minutes each. The study revealed a significant main effect of Experimental group participants reported a 14.12-point reduction in total mood disturbance, while the wait list control group showed a 1.21-point reduction ($p=0.001$) & experimental group reported a 18.86-point decrease in total mood disturbance, while controls showed a 0.19-point reduction ($p<0.001$). The self-esteem of experimental group was significantly greater than that of the wait list control group ($p=0.044$). The study results indicate that laughter therapy can improve mood state and self-esteem and can be a beneficial, non invasive intervention for patients with cancer in clinical settings⁵⁴.

Kim (2015) conducted a randomized controlled trial study was to examine the effect of a therapeutic laughter program and the number of program sessions on anxiety, depression, and stress in breast cancer patients was conducted involving 31 patients who received four sessions of therapeutic laughter program comprised and 29 who were assigned to the no-program control group. Scores for anxiety, depression, and stress were measured using an 11-point numerical rating scale. While no change was detected in the control group, the program group reported reductions of 1.94, 1.84, and 2.06 points for anxiety, depression, and stress, Scores decreased significantly after the first therapeutic laughter session ($p < 0.05$, $p < 0.01$, and $p < 0.01$). As the therapeutic laughter program was effective after only a single session in reducing anxiety, depression, and stress in breast cancer patients, it could be recommended as a first-line complementary/alternative therapy⁵⁵.

Maheshkumar.T(2015) “Effectiveness of Laughter therapy on depression among elderly residing in selected old age home adopted a pre experimental one

group pre test post test design was used. 40 elderly were selected by purposive sampling method pre test was conducted by Geriatric depression scale on the first day after obtaining consent from all the subjects laughter therapy was given 20 minutes twice a day for 5 consecutive days (total 10Sessions) followed by post test was assessed ,hence there was a significant association between post test level of depression and age(60-70 years), sex(male),and medical illness(no medical illness),history of taking medicines (not taking medicines) among elderly in the old age home⁵⁶.

Premavathi.t(2015), effectiveness of laughter therapy on depression among elderly persons adopted for the study was pre-experimental design non-probability purposive sampling technique and the sample consists of 40 elderly persons the pretest mean score percentage 75.5% of level of depression among elderly persons which is reduced to 28.73% in post-test. It confirmed that there was decreased the level of depression among elderly persons after administration of Laughter therapy. The paired ‘t’ test analysis of the pretest and post-test level of Depression $t=17.53$ ($p,0.05$, $df=1.96$) was highly significant⁵⁷.

Cai C, Yu L, Rong L, Zhong H.(2014) study was to evaluate the possible therapeutic effects of a 10-session humor intervention program in improving rehabilitative outcomes and the effects of the intervention on patients' sense of humor among 30 patients with schizophrenia. The results were analyzed using descriptive statistics, t-tests and ANOVA. The time main effect was also significant on the total score ($p < 0.005$) and the negative symptoms score ($p < 0.001$) of the positive and negative symptoms of schizophrenia⁵⁸.

Kong M, Shin SH, Lee E, Yun EK.(2014)assessed the effectiveness of laughter therapy in preventing radiation dermatitis in patients with breast cancer. Laughter therapy was started at the onset of RT and was provided twice a week until completion of RT The results of this study show that laughter therapy can have a beneficial role in preventing radiation dermatitis in patients with breast cancer. To confirm the results of our study, well-designed randomized studies with large sample sizes are required⁵⁹.

Yazdani, Esmailzadeh, Pahlavanzadeh, and Khaledi (2014) quasi-experimental two-group three-step study conducted the effect of laughter therapy on general health among 38 male nursing students. In the study group, eight 1 h sessions of laughter Yoga were held (two sessions a week), and in the control group, no intervention was conducted. The data of the present study were collected by Goldberg and Hiller's General Health Questionnaire and analyzed by SPSS version⁶⁰.

2.1.3. REVIEW OF LITERATURE RELATED TO THE EFFECTIVENESS OF LAUGHTER THERAPY ON STRESS.

Jansy L.M (2016) conducted a study to assess the effectiveness of laughter therapy on reducing stress among working personnel in selected hospital at Chennai by Pre experimental one group pre test and post test design, random sampling technique (Lottery Method) used to selecting 60 samples, the study results shows that mean increase = 1.4 and S.D difference was 6.4 and the socio demographic variables like education and religion were associated with effectiveness of laughter therapy with the significant level of $P < 0.005$. decreases in stress level⁶¹.

Shanmugam.R, Susila.C, J. Anitha (2016) assesses the effectiveness of laughter therapy on the level of stress among school teachers adopted one group pre test and post test design with purposive sampling technique was used to select the sample as middle school teachers. the result shows in the pre test, the overall mean of level of stress was 80.56 with SD of 8.48. In the post test, the overall mean of level of stress was 48.56 with SD of 9.25. The paired "t" test value is significant at 24.59. It was statistically significant at $p < 0.05$ level. This findings revealed that there was significant association of the level of stress with demographic variables like age, interpersonal, educational status, monthly income, type of family, parenting style of school teachers. The investigators concluded that information, education, practice and communication package on laughter therapy was an effective method to reduce the level of stress among school teachers⁶².

Elamathi.E (2015) conducted study is aimed to assess the effectiveness of laughter therapy in reduction of stress among the elderly people adopted pre experimental design by non-probability convenient sampling technique ($n=60$) and pre-existing level of stress among the elderly and post-test was done by structured

questionnaire. After pre-test, laughter therapy was practiced with elderly people, the levels of stress among the elderly people were analyzed. The overall pre-test stress score among elderly people was 62.6% whereas in post-test it was 29.9%. So the significance difference between pre-test and post-test stress score is 32.6%. There is a close association in the level of stress reduction and their demographic variables like age of elderly, educational status and duration of stay statistically significance, hence the finding revealed that laughter therapy was effective and helped the elderly people to reduce their stress level⁶³.

Dalbirkaur (2014) conducted a study on laughter therapy among elderly people with stress. It is observed in pre test of experimental group 1 (3.3%), 0, 29 (96.66%) subjects falls in mild, moderate, severe stress respectively. Control group has 1 (3.3%), 2 (6.6%) and 27 (90%) mild, moderate and severe level. In post test, there was no decrease level of stress among control group 1 (6.6 %) moderate, 29 (96.66 %) severe whereas elderly people increased in moderate 16 (53.33 %) and mild 9 (30 %) as compared to pre test of experimental group after laughing session 20-25 minutes daily for 15 days. Only 5 (16.6 %) elderly people remained in severe stress after laughter therapy. It shows that shifting of samples in various level of stress due to laughter therapy in experimental group only⁶⁴.

Sukesh , Nalini M, (2014) aims to assess the effectiveness of laughter yoga on stress among the nurses. The one group pre test post-test design was adopted and convenient sampling technique was used in this study. The study result showed that the mean post test stress score is lower than that of pre test score, and it is found that laughter yoga is effective in reduction of stress⁶⁵.

Mary Emmanuel(2013) conducted a study to assess the effectiveness of laughter therapy on stress among staff nurses working with cancer patients by quasi-experimental non equalized control group design (two group pre-test post-test).non probability convenient sampling technique was adopted to select 60 staff nurses, study reveals that, in experimental group the mean post-test level of stress score (28.33%) was lower than the mean pre-test score(40.46%) and the calculated t-value (15.41) was greater than the table value (2.045) in experimental group. In control group the mean post-test level of stress score (34.50%) was slightly greater than the mean pre-

test score (34.23%) and the calculated t-value (1.682) was less than the table value (2.045) at 0.05 level of significance. Hence Laughter therapy is effective on level of stress among staff nurses working with cancer patients⁶⁶.

Shadi Farifteh¹, Alireza Mohammadi Aria, Alireza Kiamanesh, Bahram Mofid (2013) conducted a research study , as the first step, 37 cancer sufferers , who had been hospitalized in Shohada Tajrish Hospital (Behnam Daneshpoor Charity Organization) and had the requirements for being taken as research samples, were selected for data collection. The mentioned patients were classified randomly in experiment and control groups. Collected data were analyzed by the multi-variable covariance analysis test The results shows there is a meaningful difference in the stress average before and after interference in the test group ($p < 0.05$)⁶⁷.

Deshpande (2012) investigated on a healthy way to handle work place stress through yoga, meditation and soothing. The productivity in turn is dependent on the psychosocial well being of the employees. Stress can affect one's health, work performance, social life and the relationship with family members. The stress response is a complex emotion that produces physiological changes to prepare us for —fight or flight— to defend ourselves from the threat or flee from it. The stressors and its consequences are to be understood at individual and organizational level. Stress in the workplace has emerged as a major issue for businesses and has reached alarming proportions. Organizations must develop stress prevention as well as stress reduction techniques. This research focuses on practices adopted by organizations to prevent, minimize and to overcome the stress. The study aims at understanding use of yoga, meditation and soothing laughter by different organizations as an antidote to workplace stress⁶⁸.

Vijaya saraswathy.T(2012) conducted a study to assess the effectiveness of laughter therapy on stress among senior citizens adapted Quasi - experimental one group pre-test, post-test design ,simple random sampling was adapted for the selection of 30 senior citizens Pre test reveals that out of 30 samples 17 (56.67%) had moderate stress and 13 (43.33%) had severe stress. After practicing laughter therapy among 30 senior citizens, 26 (86.67%) had mild stress and four (13.33%) had moderate stress. It shows that laughter therapy was effective in reducing stress among senior citizens.

The overall mean of pre test score is 87.87 with the standard deviation of 7.09. The overall mean of post test score is 48.67 with the standard deviation of 6.33. The overall mean improvement score was 36.43 with the standard deviation of 10.16. Hence there is a significant difference between the pre test and post test level of stress among the senior citizens⁶⁹.

Ramesh Narula., Varsha Chaudhary., Kusum Narula., Ram Narayan, (2011) conducted a study on job stress, anxiety and stress reduction in medical education: laughter as an intervention as interventional, randomized control trial study was carried out on medical students of 4th Semester of RMCH, Bareilly, which has total 90 students. Using simple random sampling lottery method the whole class was divided in two groups. Comparison of Severe and Extremely severe Stress: In Group A 40.54% in class -1 increased to 47.54% in class- 4, while in group B initial 13.15 % was reduced to 0 % (highly significant). Anxiety: In group A, after Class 1 -57.45% increased to 61.11% after class 4, while in group B, after class 1- 23.68% reduced to 2.27% only (highly significant). Job stress: In group A, after Class 1 - 40.53% & 41.66 % after class 4 (not significant), while in group B, after class 1- 18.41% reduced to 0% (highly significant)⁷⁰.

Stacy.R.Freiheit et al (2010) conducted a study to find out the effectiveness of laughter therapy on stress among high school students. Sample consisted of 72 students of cultural community of Tehran were chosen by purposive sample technique. The Tension and Effort Stress Inventory (TESI) was used as a tool. Randomized pre and post-test controlled group research design was used. Life satisfaction scale pretest and demographic were administered before laughter therapy. The laughter therapy was given daily 30 minutes up to 4 weeks. 60.8% of stress was reduced after laughter session. This finding showed that laughter therapy had effects on reducing stress among high school students⁷.

Mimi. M.Y.Tse et al (2010) conducted a study to determine the effectiveness of laughter therapy on relieving chronic stress and enhancing happiness among adolescents. Sample consisted of 70 adolescents (36 adolescence in experimental group and 34 in the control group). It was a quasi-experimental pre test ,post test controlled design. 8 weeks of laughter therapy programme (experimental group) in

another school were treated as a control group. The post test stress score of experimental group was 28.5% and control group score was 80.1 %.The result show that use of laughter therapy appears to be an effective non pharmacological intervention for the significant reduction of chronic stress and increase happiness⁷².

Klatt M.D (2009) conducted a study to assess the effectiveness of laughter therapy among 50 individuals employed in various occupations in Iran. Individuals are divided as 15 workers, 15 managers, 9 guardians,5 dentists, 6 teachers. Stress inventory was used as a tool. Laughter therapy was provided for 30 minutes daily. After each session they are asked to continue in work environment. The post-test stress was 20.7%.These result showed that there was a great relief from the stress after laughter therapy⁷³.

Lakhwinder Kaur, Indarjit Walia(2008)A quasi experimental study was conducted in the National Institute of Nursing Education PGIMER,Chandigarh with total forty two BSc nursing first year students available during the time of data collection constituted the study sample. Data was collected before and after the experimentation. Experimentation involves administering laughter therapy for 15-20 minutes daily.During ten days, laughter therapy has shown positive effect on reducing the stress level of subjects at statistically significant level (tcal 32,df 41, p <0.05) Mean stress score was decreased from 112 to 103 after the laughter therapy⁷⁴.

2.2CONCEPTUAL FRAMEWORK

A conceptual framework or a model which is made up of concepts which are the mental images of the phenomenon. These concepts are linked together to express the relationship. A model is used to denote the symbolic representation of the concepts.

The conceptual frame work used in this study is Imogene King's goal attainment theory (1981). It is based on the personal and interpersonal system including interaction, perception, communication, transaction, stress, growth and development, time and space.

According to this theory, two people meet in some situation, perceive each other, make judgement and take some mental action to react each one. Since these behaviours cannot be directly observed, one can make inferences about same. The

next step in the process is interaction, which can be directly observed. The last step in this model is transaction, which is dependent upon the achievement of the goal.

The investigator adopted King's goal attainment theory as basis for conceptual framework, which is aimed to provide laughter therapy for school teachers on stress and to find out the effectiveness of Laughter therapy by assessing the stress level of school teachers before and after intervention. This involves interaction between the researcher and the school teachers.

The six major concepts of the phenomenon are described as follows.

1. Perception

Perception is a process in which data obtained through senses and from memory are organised, interpreted and transformed, which are related to past experience, concept of self and educational background.

Perception is universal, yet highly subjective and unique to each person. It is not observable, but it can be inferred. It refers to people's representation of reality. Here the researchers' perception is needed to promote the laughter therapy on reduction of stress among school teachers. The school teachers also perceived the need for Laughter therapy to reduce their stress.

2. Judgement

Judgment is decision which is made. Here the researcher decided to provide Laughter therapy on stress among school teachers, and reinforce them to take the decision to participate in the research study for their stress reduction.

3. Action

Action refers to mental or physical activity to achieve the goal, what the individual perceive. The researcher plan of action is to assess the stress among school teachers by perceived stress scale and make them ready to receive laughter therapy to reduce their stress level.

4. Reaction

Reaction helps in setting a mutual goal. In this study the researcher and school teachers set a mutual goal. Here the mutual goal is reduction in level of stress.

5. Interaction

Refers to the verbal and non verbal behaviour or communication of the individual and the environment between two or more individual who involve goal directed perception. In this study, the investigator interacts with the school teachers by giving pre test questionnaire and encourages the school teachers to receive the Laughter therapy to reduce the level of stress.

6. Transaction

It refers to attainment of a goal. In this stage, the investigator reassesses the reduction of stress score level by post test with perceived stress scale as a structured questionnaire and evaluating the effectiveness of laughter therapy.

CHAPTER - III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing them procedure for assembling valid and reliable data for investigation. This chapter provides a brief explanation of the method adopted by the investigator in this study. It includes the research approach, research design, and variables, setting of the study, population, sample and sample size, sampling technique, description of the tool, pilot study, data collection procedure and plan for data analysis. The present study is aimed to assess the effectiveness of Laughter therapy on stress among teachers in selected schools at Chennai.

3.1. RESEARCH APPROACH

The research approach is the most essential part of any research. The entire study is based on it. In this study Effectiveness of Laughter therapy on stress among the teachers was assessed. Therefore a quantitative/evaluative approach was used to test the effectiveness of intervention.

3.2. RESEARCH DESIGN

The investigator used Pre experimental design (one group pre test post test) for this study. There was a manipulation for the subjects without a control group and randomization.

3.2.1 Description of the pre experimental study design

Table-3.1

Groups	Pre-test	Intervention	Post-test
Study group	O1- Level of stress before giving laughter therapy	X- Administration of laughter therapy	O2- Level of stress after giving laughter therapy

Notes: O1- Level of stress before giving laughter therapy
X- Administration of laughter therapy
O2- Level of stress after giving laughter therapy

3.3 RESEARCH VARIABLES

Influencing variable: Age, Sex, Marital status, Type of school, Academic qualification, Professional qualification, Handling classes, Years of experience, Distance of travel, Perceived social support

Independent variable: Laughter therapy.

Dependent variable: Level of stress among teachers

Extraneous variables: Mass media, peer group, knowledge about laughter therapy

3.4 SETTING OF THE STUDY

The study was conducted in schools like Chennai corporation school, Government aided school. The schools are situated in 3 kilometres away from College of nursing, Madras Medical College, Chennai, in various directions.

3.5 POPULATION

3.4.1 Target population:

Target population of the study was school teachers in Chennai.

3.4.2 Accessible population:

The accessible populations are school teachers handling all standards of students in Government aided school (Angel school), and Chennai Corporation school at Chennai.

3.6 SAMPLE

School teachers of selected schools, Chennai, who fulfilled the inclusive sampling criteria.

3.7 SAMPLE SIZE

60 samples of school teachers selected for this study

3.8 SAMPLING TECHNIQUE

Sampling Technique used in the study was Non Probability (Purposive) sampling technique.

3.9 SAMPLING CRITERIA

The study sample was selected by the following inclusion and exclusion criteria.

3.9.1 INCLUSION CRITERIA

- ✓ The teachers who are willing to participate,
- ✓ The teachers who are available at the time of data collection.
- ✓ The teachers age group of 23 -45 years.
- ✓ The teachers stress score within moderate and severe score category.

3.9.2 EXCLUSION CRITERIA:

- ✓ The teachers, who has low stress level in this study.
- ✓ The teachers those who are not present at the time of data collection.
- ✓ The teachers having any significant medical or surgical ailments, pregnancy, lactation.
- ✓ The teachers underwent laughter therapy programme.

3.10 DESCRIPTION OF THE TOOL AND TECHNIQUE

- The tool used for the study was Perceived stress Scale.
- The Technique used for the study was structured questionnaire method.

The Tool consists of two sections.

3.10.1 Section – I (Socio Demographic Variable):

This section includes baseline variable items such as age, Gender, Marital status, Type of school, Academic qualification , Professional qualification, Medium of teaching, Handling of classes, Years of experience in teaching, Teaching of subjects, Hours of sleep per day, Type of leisure activity, Handling of stress by themselves, Perceived social support, Distance (km) of working area from residence

3.10.2 Section – II

Perceived stress scale which consists of 10 Questions. It was introduced by Sheldon Cohen in 1983.

3.11 DESCRIPTION OF THE INSTRUMENT

Section-I: There is no score allotted for baseline variables.

Section-II: Perceived stress scale which consists of 10 questions

The investigator collected the data by structured questionnaire method. The items were assessed by the tool scores, which was given based on the nature of questions that is in positive manner for positive type questions and in reverse manner for the negative aspect questions. The questions in this scale ask about feelings and thoughts during the last month. In each case, teachers will be asked to indicate how often they felt or thought a certain way. Although some of the questions are similar, there are differences between them and should treat each one as a separate question.

The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the alternative that seems like a reasonable estimate.

Figuring PSS score:

Determine the PSS score by following these directions:

First, reverse your scores for questions 4, 5, 7, & 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0.

Total score is _____/40. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

Table-3.11.1.Description of scoring key

S.NO	LEVEL OF STRESS	RANGE OF SCORES
1	Low stress.	1-13
2	Moderate stress.	14-26
3	High perceived stress.	27-40

3.12 RELIABILITY OF THE TOOL

The reliability of an instrument is the degree of consistency with which it Measures the attribute and it is supposed to be measuring over a period of time. The

Tool was a standardized one. After pilot study reliability of the tool was assessed by using Test retest method. Stress score reliability correlation coefficient value is 0.80. This correlation coefficient is very high and it is good tool for assessing effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai.

3.13 VALIDITY OF THE TOOL

Data collection tool is an instrument that measures the variables of interest of the study accurately, precisely and sensitively. The tool was validated by 5 experts from the field of Psychiatric Nursing, Psychiatrist, and clinical psychologist. The experts were requested to check the relevance, sequence and adequacy of the items in the structured questionnaire. There was uniform agreement of the tool which is adopted to conduct the study. Hence, the investigator precedes the same tool for assessing effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai.

3.14 PILOT STUDY

Pilot study is a trial run for the main study to test the reliability, practicability and feasibility of the study.

The main objective of the pilot study is to help the researcher to become familiar with the use of tool and to find out the difficulties in the main study. The investigator underwent Laughter therapy training programme from laughter club India, Anna nagar and obtained a certificate. The pilot study was conducted after getting ethical clearance and the permission from authority of the school it was conducted for a period of one week in corporation school. Sample of 10 school teachers (who were not included in the main Study) were selected by non-probability purposive sampling technique. Informed consent was obtained from them before collection of the data. Data were collected from the school teachers by structured questionnaire before the implementation of laughter therapy. After completion of laughter therapy sessions, the school teachers were assessed their stress level by using same scale. The findings of the pilot study revealed that the study was feasible and practicable.

3.15 DATA COLLECTION PROCEDURE

Data collection is the process of acquiring and collecting information needed for the study from the subjects. The data collection period started from 02.01.2018 to 29.01.2018.

Prior to data collection a formal permission letter was obtained from the Deputy commissioner of Education Greater Chennai corporation-Chennai, Head Mistress of Chennai Corporation Middle School, and then formal permission from correspondent & Head mistress of government aided school. Thereafter, rapport was established successfully with the teachers with less inconvenience. The researcher had contacted 60 teachers from Government aided school and 40 teachers from corporation school information obtained will be solely used for the study purpose.

The schools were located from college of nursing 3-5 km distance in various directions. The samples were selected initially 40 teachers from Govt aided school, and 30 teachers from corporation school based on sample selection criterion of purposive sampling technique. Among them 5 teachers from each school were dropped out where 3 of them due to attending training regarding activity based learning, 4 teachers were sick, 3 of them has low stress score. Finally 35 and 25 teachers were selected from Govt.aided school and corporation school respectively. The main purpose of the study and details were explained individually to each and every participant. Informed consent was obtained from the subjects. Structured questionnaire was distributed along with personal data sheet administered to every participant. In order to obtain adequate responses, the participants were assured of anonymity and confidentiality of the information provided by them and assurance was given that the information obtained will be solely used for the study purpose. Thus, after taking their responses the data were collected carefully.

The pre test was conducted from 02.01.2018 to 04.01.2018(3 days) after obtaining consent from the Government aided school teachers and corporation school teachers were selected 13 teachers per day and 10 teachers per day respectively. After that from 3rd onwards laughter therapy was practised 20 mts per day continuously. The laughter therapy was continued in evening sessions for their convenience of 35

teachers as a group in Government aided school, afternoon sessions for their convenience of 25 teachers as another group in corporation school .

Followed by 28.01.2018 to 29.01.2018 the post test was conducted among Government aided school teachers and corporation school teachers respectively.

LAUGHTER THERAPY INTERVENTION PROTOCOL:

- ✓ After a brief self – introduction and explanation about the study, I proceed with the main study.
- ✓ Pre test data and post test data was collected by using self structured questionnaires to collect demographic variables ,and stress will be assessed by using perceived stress scale structured questionnaire(PSS).
- ✓ Questionnaire by written test will be assessed directly by the investigators for about 10 minutes.The samples were demonstrated with explanation of laughter therapy for about 20 minutes.
- ✓ The samples were encouraged to practice the same. They will be comfortable with the procedure and time will adequate.

Table -3.15.1

LAUGHTER THERAPY PROTOCOL

SESSION	DURATION		EXERCISE
	Afternoon Corporation school	Evening Government aided school	
1	20 minutes	20 minutes	Introduction to laughter therapy Clapping and warming up, Deep breathing exercises. <ul style="list-style-type: none"> • Greeting laughter • Hearty laughter
2	20 minutes	20 minutes	Clapping and warming up, Deep breathing exercises. <ul style="list-style-type: none"> • Milk Shake laughter

			<ul style="list-style-type: none"> • Mobile Phone laughter • Swinging laughter
3	20 minutes	20 minutes	Clapping and warming up, Deep breathing exercises <ul style="list-style-type: none"> • Argument laughter • Nasal laughter • Imitation Laughter
4	20 minutes Afternoon	20 minutes	Clapping and warming up, Deep breathing exercises <ul style="list-style-type: none"> • Dyslexic Laughter • Silly Laughter • Playful laughter
5	20 minutes Afternoon	20 minutes	Clapping and warming up, Deep breathing exercises <ul style="list-style-type: none"> • Greeting laughter • Hearty laughter • Milk Shake laughter • Mobile Phone laughter • Swinging laughter • Argument laughter • Nasal laughter • Imitation Laughter • Dyslexic Laughter • Silly Laughter • Playful laughter Closing the session with satisfaction

3.16. DATA ANALYSIS

The collected data was analyzed by means of descriptive statistics, and inferential statistics.

DESCRIPTIVE STATISTICS

- **Analysis of the baseline data** was done by using frequency and percentage.
- Stress among teachers was analyzed by computing frequency, percentage, mean and Standard deviation.

INFERENTIAL STATISTICS

- **Paired “t” test** was used to find out the effectiveness of laughter therapy on Stress among teachers in selected schools.
- **Chi-square analysis** was used to determine the association between the level of Stress and selected socio demographic variables among school teachers

3.17. PROTECTION OF HUMAN RIGHTS

The investigator obtained approval from Ethical committee of College of Nursing, The Ethical IRB committee of Rajiv Gandhi Government General Hospital and from the Deputy Commissioner, Greater Chennai Corporation, Head mistress of Chennai corporation middle school, Head mistress of Government aided school and correspondent of that school. Both verbal and written consent was obtained from all the participants. Confidentiality and Anonymity was maintained throughout the study.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

Analysis and interpretation of the data obtained from 60 school teachers who were worked at selected schools at Chennai. The collected data were tabulated and presented according to the objectives under the following headings.

➤ **Section-I :**

Socio demographic profile of the school teachers

➤ **Section-II :**

Stress level of the school teachers before laughter therapy intervention.

➤ **Section-III :**

Stress level of the school teachers after laughter therapy intervention

➤ **Section-IV:**

Effectiveness of the laughter therapy

➤ **Section-V:**

Associate the effectiveness of laughter therapy with selected demographic Variables.

STATISTICAL ANALYSIS:

- Demographic variables in categories were given in frequencies with their percentages.
- Stress score was given in mean and standard deviation.
- Association between demographic variables and stress score were analysed using Pearson chi-square test
- Quantitative stress score in pre test and post test were compared using student's paired t-test.
- Qualitative level of stress in pre test and post test were compared using Stuart-Maxwell test /extended McNemar test
- Association between stress reduction score with demographic variables are assessed using one way ANOVA F-test and student independent t –test.
- Simple bar diagram, Multiple bar diagram, Pie diagram, and Box plot were used to represent the data.

- $P < 0.05$ was considered statistically significant. All statistical test are two tailed test.

SECTION-A: SOCIO DEMOGRAPHIC VARIABLES OF SCHOOL TEACHERS

Table-4.1: DEMOGRAPHIC PROFILE

Demographic variables		No. of school teachers	%
Age	25 – 30 Years	28	46.7%
	31 - 35 Years	14	23.3%
	36 - 40 Years	12	20.0%
	41 - 45 Years	6	10.0%
Gender	Male	32	53.3%
	Female	28	46.7%
Marital status	Married	46	76.7%
	Unmarried	11	18.3%
	Widow	3	5.0%
Type of school	Government	18	30.0%
	Corporation	9	15.0%
	Private	11	18.3%
	Government Aided School	22	36.7%
Academic qualification	Bachelor degree	22	36.7%
	Master degree	10	16.7%
	Degree with M.Phil	26	43.3%
	Degree with doctorate	2	3.3%
Professional qualification	Diploma in Teacher Education	29	48.3%
	Bachelor of Education	21	35.0%
	Master of Education	10	16.7%
Medium of teaching	Tamil	37	61.7%
	English	23	38.3%

Handling of classes	1-3rd standard	28	46.6%
	4th -6th standard	13	21.7%
	7th – 9th standard	6	10.0%
	10th standard	13	21.7%
Years of experience in teaching	3-5 years	14	23.4%
	6-8 years	18	30.0%
	9-11 years	23	38.3%
	12-15 years	5	8.3%
Teaching of subjects	Tamil	25	41.7%
	English	15	25.0%
	Mathematics	16	26.7%
	Science	2	3.3%
	Social science	2	3.3%
Hours of sleep per day	3 - 5 hours	15	25.0%
	6 - 8 hours	25	41.7%
	> 8 hours	12	20.0%
	Sleep disturbance	8	13.3%
Type of leisure activity	Gardening	21	35.0%
	Painting	16	26.7%
	Playing games	9	15.0%
	Others	14	23.3%
Handling of stress by themselves	Listening Music	24	40.0%
	Watching T.V	12	20.0%
	Reading Books	12	20.0%
	Sharing with friends	12	20.0%
Perceived social support	Good	19	31.7%
	Average	18	30.0%
	Poor	23	38.3%
Distance (km) of working area from residence	1 - 5 kms	29	48.3%
	6 -10 kms	15	25.0%
	>10 kms	16	26.7%

Table 4.1: Shows the demographic information of school teachers those who participated in this study

- 46.7% of teachers in the age group of 25-30 years , 23.3% of teachers in the age group of 31-35 years , 20.0% of teachers in the age group of 36-40 years ,10.0% of teachers in the age group of 41-45 years.
- Majority of teachers were female in 86.7% and the male was 13.3%.76.7% married 18.3% were unmarried,5% were widow.
- School teachers of government aided school were 58.3%,followed by corporation school teachers were 41.7%
- Academic qualification of teachers were 43.3% in Degree with M.Phil, 36.7% in Bachelor degree, 16.7% Master degree, 3.3%degree with doctorate.
- Professional qualifications of teachers in diploma in teacher education 48.3%, Bachelor of Education 35.0%, Master of Education were 16.7%.
- Medium of teaching in Tamil were 61.7%,English were 38.3%
- Handling of classes standards in 1-3rd standard 46.6%, 4-6 th standard &10th standard 21.7%, 7th -9 th standard handling teachers were 10.0%.
- Years of experience in teaching 9-11 years were 38.3%6-8 years were 30.0%,3-5 years were 23.4%,12-15 years were 8.3%.
- Teaching of subjects of Tamil were 41.7%, Mathematics were 26.7%,English were 25.0%,science and social science were 3.3%(same).
- Hours of sleep per day of school teachers 6 - 8 hours 41.7%,3 - 5 hours 25.0%> 8 hours20.0% sleep disturbance 13.3%
- Type of leisure activity of teachers Gardening 35.0%, Painting 26.7% Other leisure activity 23.3% Playing games 15.0%
- Handling of stress by themselves of teachers were Listening Music 40.0%,watching TV 20.0% Reading Books 20.0% Sharing with friends20.0%
- Perceived social support among teachers were Poor 38.3%,good 31.7%,average 30.0%
- Distance (km) of working area from residence of teachers were 1 - 5 kms 48.3%>10 kms26.7%6 -10 kms25.0%

**SECTION-B: STRESS LEVEL OF SCHOOL TEACHERS BEFORE
LAUGHTER THERAPY**

Table 4.2: EACH QUESTIONWISE PRETEST LEVEL OF PERCEIVED STRESS
SCALE SCORE

S.N O	ITEMS	NEVER	ALMOST NEVER	SOME TIMES	FAIRLY OFTEN	VERY OFTEN
1	In the last month, how often have you been upset because of something that happened unexpectedly?	2	4	35	11	8
2	In the last month, how often have you felt that you were unable to control the important things in your life?	4	3	10	29	14
3	In the last month, how often have you felt nervous and stressed?	0	2	28	18	12
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	5	12	14	14	15
5	In the last month, how often have you felt that things were going your way?	11	13	18	10	8
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	8	15	28	7	2
7	In the last month, how often have you been able to control irritations in your life?	3	10	25	15	7
8	In the last month, how often have you felt that you were on top of things?	6	13	23	15	3
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	8	7	15	17	13
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	11	14	23	12

Table- 4.2 Shows the each question wise level of perceived stress scale score among school teachers in selected schools at Chennai”.

Table 4.3: EACH QUESTIONWISE PRETEST PERCENTAGE OF PERCEIVED STRESS SCALE SCORE

S.NO	ITEMS	MAXIMUM SCORE	MEAN SCORE	SD	% OF MEAN SCORE
1	In the last month, how often have you been upset because of something that happened unexpectedly?	4	2.32	.91	58.00%
2	In the last month, how often have you felt that you were unable to control the important things in your life?	4	2.77	1.08	69.25%
3	In the last month, how often have you felt nervous and stressed?	4	2.67	.84	66.75%
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	4	2.37	1.29	59.25%
5	In the last month, how often have you felt that things were going your way?	4	1.85	1.29	46.25%
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	4	1.67	.97	41.75%
7	In the last month, how often have you been able to control irritations in your life?	4	2.22	1.03	55.50%
8	In the last month, how often have you felt that you were on top of things?	4	1.93	1.04	48.25%
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	4	2.33	1.31	58.25%
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	4	2.60	1.01	65.00%
	Total	40	22.72	3.65	56.80%

Table.4.3- shows the each question wise percentage of perceived stress scale score of school teachers in selected

Table 4.4: PRETEST LEVEL OF STRESS

LEVEL OF STRESS	NO. OF SCHOOL TEACHERS	%
Low stress	0	0.0%
Moderate stress	46	76.7%
High stress	14	23.3%
Total	60	100%

Table No.4.4 shows the pre test level of stress score.

In general , none of the school teachers are having Low level stress score and 76.7% of them having Moderate level of stress score and 23.3%of them are having High level of stress score.

Stress score interpretation:

0 – never 1 - almost never 2 – sometimes 3 - fairly often 4 - very often

Min=0 Max=4 Total questions=10 Maximum marks= 40

Table-4.5-Pre Test Stress Score Interpretation

S NO.	GRADE	PERCENTAGE	MARKS
1.	Low stress	1 – 33%	1 – 13
2.	Moderate stress	34 – 66%	14 – 26
3.	High stress	67 – 40 %	27 – 40

**SECTION-C: STRESS LEVEL OF SCHOOL TEACHERS AFTER
LAUGHTER THERAPY**

Table 4.6: EACH QUESTIONWISE POSTTEST LEVEL OF PERCEIVED STRESS
SCALE SCORE

S NO	ITEMS	NEVER	ALMOST NEVER	SOMETIMES	FAIRLY OFTEN	VERY OFTEN
1	In the last month, how often have you been upset because of something that happened unexpectedly?	4	40	8	4	4
2	In the last month, how often have you felt that you were unable to control the important things in your life?	7	37	8	4	4
3	In the last month, how often have you felt nervous and stressed?	1	43	8	4	4
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	9	34	9	4	4
5	In the last month, how often have you felt that things were going your way?	0	46	6	4	4
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	9	34	9	4	4
7	In the last month, how often have you been able to control irritations in your life?	7	39	6	4	4
8	In the last month, how often have you felt that you were on top of things?	3	41	8	4	4
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	1	43	8	5	3
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	9	36	7	4	4

Table- 4.6, shows the each question wise level of post test Perceived stress scale score among school teachers in selected schools at Chennai

Table 4.7: EACH QUESTIONWISE POSTTEST PERCENTAGE OF PERCEIVED STRESS SCALE SCORE

S.NO	ITEMS	MAXIMUM SCORE	MEAN SCORE	SD	% OF MEAN SCORE
1	In the last month, how often have you been upset because of something that happened unexpectedly?	4	1.40	.96	35.00%
2	In the last month, how often have you felt that you were unable to control the important things in your life?	4	1.35	1.01	33.75%
3	In the last month, how often have you felt nervous and stressed?	4	1.45	.91	36.25%
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	4	1.33	1.04	33.25%
5	In the last month, how often have you felt that things were going your way?	4	1.43	.89	35.75%
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	4	1.33	1.04	33.25%
7	In the last month, how often have you been able to control irritations in your life?	4	1.32	1.00	33.00%
8	In the last month, how often have you felt that you were on top of things?	4	1.42	.94	35.50%
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	4	1.43	.87	35.75%
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	4	1.30	1.03	32.50%
	Total	40	13.77	4.57	34.43%

Table -4.7 Shows the each question wise percentage of post test perceived stress scale score among school teachers in selected schools at Chennai

TABLE 4.8: POSTTEST LEVEL OF STRESS

LEVEL OF STRESS	NO. OF SCHOOL TEACHERS	%
Low stress	34	56.7%
Moderate stress	26	43.3%
High stress	0	0.0%
Total	60	100%

Table No.4.8 Shows the school teachers post test level of stress score.

In general, 56.7% of school teachers are having Low level of stress score, 43.3% of them having Moderate level of stress score and none of them are having High level of stress score.

SECTION-D: EFFECTIVENESS OF LAUGHTER THERAPY

Table 4.9: COMPARISON OF PRETEST AND POSTTEST STRESS SCORE

S. N O	Stress on	Pretest		Posttest		Mean Difference	Student's paired T-test
		Mean	SD	Mean	SD		
1	In the last month, how often have you been upset because of something that happened unexpectedly?	2.32	.91	1.40	.96	0.92	t=5.28P=0.001 *** DF= 59 , Significant
2	In the last month, how often have you felt that you were unable to control the important things in your life?	2.77	1.08	1.35	1.01	1.42	t=7.05 P=0.001 *** DF= 59 , Significant
3	In the last month, how often have you felt nervous and stressed?	2.67	.84	1.45	.91	1.22	t=7.79 P=0.001 *** DF= 59 , Significant
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	2.37	1.29	1.33	1.04	1.04	t=5.35 P=0.001 *** DF= 59 , Significant
5	In the last month, how often have you felt that things were going your way?	1.85	1.29	1.43	.89	0.42	t=1.99P=0.05* DF= 59 , Significant
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	1.67	.97	1.33	1.04	0.34	t=1.96 P=0.05* DF= 59 , Significant
7	In the last month, how often have you	2.22	1.03	1.32	1.0	0.9	t=4.74 P=0.001 ***

	been able to control irritations in your life?				0		DF= 59 , Significant
8	In the last month, how often have you felt that you were on top of things?	1.93	1.04	1.42	.94	0.51	t=2.94 P=0.01 ** DF= 59 , Significant
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	2.33	1.31	1.43	.87	0.9	t=4.07 P=0.001 *** DF= 59 , Significant
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2.60	1.01	1.30	1.03	1.3	t=8.21P=0.001 *** DF= 59 , Significant

*** very high significant at $P \leq 0.001$

**Table no -4.9, shows the comparison of pre test and post test stress score
STRESS REGARDING:**

- **“In the last month, how often have you been upset because of something that happened unexpectedly?”**, in pre test, school teachers are having 2.32 score whereas in post test they are having 1.40 score. Difference is 0.92 . This difference is large and it is statistically significant difference.
- **“In the last month, how often have you felt that you were unable to control the important things in your life?”**, in pre test , school teachers are having 2.77 score whereas in post test they are having 1.35 score. Difference is 1.42. This difference is large and it is statistically significant difference.
- **“In the last month, how often have you felt nervous and stressed?”**, in pre test , school teachers are having 2.67 score whereas in post test they are having 1.45 score. Difference is 1.22. This difference is large and it is statistically significant difference.

- **“In the last month, how often have you felt confident about your ability to handle your personal problems?”** in pre test , school teachers are having 2.37 score whereas in post test they are having 1.33 score. Difference is 1.04 . This difference is large and it is statistically significant difference.
- **“In the last month, how often have you felt that things were going your way?”**In pre test, school teachers are having 1.85score whereas in post test they are having 1.43 score. Difference is 0.42. This difference is large and it is statistically significant difference.
- **“In the last month, how often have you found that you could not cope with all the things that you had to do?,** in pre test , school teachers are having 1.67 score whereas in post test they are having 1.33 score. Difference is 0.34. This difference is large and it is statistically significant difference.
- **” In the last month, how often have you been able to control irritations in your life?”** in pre test , school teachers are having 2.22 score whereas in post test they are having 1.32 score. Difference is 0.90 . This difference is large and it is statistically significant difference.
- **“In the last month, how often have you felt that you were on top of things?,** in pre test , school teachers are having 1.93 score whereas in post test they are having 1.42score. Difference is 0.51. This difference is large and it is statistically significant difference.
- **“In the last month, how often have you been angered because of things that happened that were outside of your control?”,** in pre test , school teachers are having 2.33 score whereas in post test they are having 1.43 score. Difference is 0.90 . This difference is large and it is statistically significant difference.
- **“In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?”** in pre test , school teachers are having 2.60 score whereas in post test they are having 1.30 score. Difference is 1.30. This difference is large and it is statistically significant difference.
- Significance of difference between pre test and post test score was calculated using student paired t-test.

TABLE 4.10: COMPARISON OF OVERALL STRESS SCORE BEFORE AND AFTER LAUGHTER THERAPY

	No. of school teachers	Pre test Mean±SD	Post test Mean±SD	Mean difference Mean±SD	Student's paired t-test
Overall Stress Score	60	22.72 ± 3.64	13.77 ± 4.57	8.95 ± 5.42	t=12.77 P=0.001*** DF = 59, significant

*** very high significant at $P \leq 0.001$

Table no- 4.10, shows the comparison of overall stress before and after the administration of laughter therapy on stress among school teachers in selected schools at Chennai.

On an average, school teachers are reduced their stress from 22.72 to 13.77 after the administration of laughter therapy. Difference is 8.95. This difference is statistically significant. Statistical significance was calculated by using student's paired 't' test.

Table 4.11: EACH QUESTIONWISE PRETEST AND POSTTEST PERCENTAGE OF STRESS

S.no	Domains	Pre test Stress	Post test stress	% of stress reduction Score
1	In the last month, how often have you been upset because of something that happened unexpectedly?	58.00%	35.00%	23.00%
2	In the last month, how often have you felt that you were unable to control the important things in your life?	69.25%	33.75%	35.50%
3	In the last month, how often have you felt nervous and stressed?	66.75%	36.25%	30.50%
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	59.25%	33.25%	26.00%
5	In the last month, how often have you felt that things were going your way?	46.25%	35.75%	10.50%
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	41.75%	33.25%	8.50%
7	In the last month, how often have you been able to control irritations in your life?	55.50%	33.00%	22.50%
8	In the last month, how often have you felt that you were on top of things?	48.25%	35.50%	12.75%
9	In the last month, how often have you been angered because of things that happened that were outside of your control?	58.25%	35.75%	22.50%
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	65.00%	32.50%	32.50%
	Overall	56.80%	34.43%	22.37%

Table-4.11, shows each domain wise stress reduction score among school teachers after having laughter therapy.

Table 4.12: COMPARISON OF PRETEST AND POSTTEST LEVEL OF STRESS SCORE

Level of stress	Pre test		Post test		Generalized McNemar's test
	n	%	n	%	
Low	0	0.0%	34	56.7%	$\chi^2=45.54$ $P=0.001^{***}(S)$
Moderate	46	76.7%	26	43.3%	
High	14	23.3%	0	0.0%	
Total	60	100.0%	60	100.0%	

***significant at $p<0.001$ level

Table no-4.12 Shows the pre test and post-test level of stress score among school teachers

- Before laughter therapy, none of the school teachers are having Low level stress score and 76.7% of them having moderate level of stress score and 23.3% of them are having High level of stress score.
- After laughter therapy, 56.7% of school teachers are having Low level of stress score 43.3% of them having moderate level of stress score and none of them are having High level of stress score.
- Level of stress reduction score between pre test and post test was calculated using Generalised McNemar's , chi-square test.

Table 4.13: EFFECTIVENESS AND GENERALIZATION OF LAUGHTER THERAPY

	Max score	Mean score	Mean Difference of stress reduction score with 95% Confidence interval	Percentage Difference of stress reduction score with 95% Confidence interval
Pre test	40	22.37	8.95(7.55 – 10.35)	22.37 %(18.8 –25.87%)
Post test	40	13.77		

Table no- 4.13, shows the effectiveness of laughter therapy in reducing stress among school teachers.

- On an average, in post test after having laughter therapy, school teachers are reduced 22.37% stress score than pre test score.
- Differences and generalization of stress reduction score between pre test and post test score was calculated using and mean difference with 95% CI and proportion with 95% CI.
- In this study effectiveness of the study is point estimate of 22.37% and interval estimate is 18.87% to 25.87%. It means in this similar setup of the study, whom ever conducted, 95 % we can assure , effectiveness of the study will lies between 18.87 to 25.87% stress score reduction .

SECTION-E: ASSOCIATE THE EFFECTIVENESS LAUGHTER THERAPY WITH SELECTED DEMOGRAPHIC VARIABLES

Table 4.14: Association between Pre test Level of Stress and School Teachers Demographic Variables

Demographic variables		Pre test level of stress score						N	Chi square test
		Mild		Moderate		Severe			
		n	%	n	%	n	%		
Age	25 – 30 Years	0	0.0%	23	82.1%	5	17.9%	28	$\chi^2=3.36$ P=0.33 (NS)
	31 - 35 Years	0	0.0%	10	71.4%	4	28.6%	14	
	36 - 40 Years	0	0.0%	10	83.3%	2	16.7%	12	
	41 - 45 Years	0	0.0%	3	50.0%	3	50.0%	6	
Gender	Male	0	0.0%	6	75.0%	2	25.0%	8	$\chi^2=0.01$ P=0.90 (NS)
	Female	0	0.0%	40	76.9%	12	23.1%	52	
Marital status	Married	0	0.0%	33	71.7%	13	28.3%	46	$\chi^2=4.14$ P=0.12 (NS)
	Unmarried	0	0.0%	11	100.0%	0	0.0%	11	
	Widow	0	0.0%	2	66.7%	1	33.3%	3	
Type of school	Government	-							$\chi^2=0.03$ P=0.84 (NS)
	Corporation	0	0.0%	18	72.0%	7	28%	25	
	Private	-							
	Government Aided School	0	0.0%	26	74.3%	9	25.7%	35	
Academic qualification	Bachelor degree	0	0.0%	16	72.7%	6	27.3%	22	$\chi^2=1.29$ P=0.73 (NS)
	Master degree	0	0.0%	8	80.0%	2	20.0%	10	
	Degree with M.Phil	0	0.0%	21	80.8%	5	19.2%	26	
	Degree with doctorate	0	0.0%	1	50.0%	1	50.0%	2	
Professional qualification	Diploma in Teacher Education	0	0.0%	21	72.4%	8	27.6%	29	$\chi^2=1.50$ P=0.47 (NS)
	Bachelor of Education	0	0.0%	18	85.7%	3	14.3%	21	

	Master of Education	0	0.0%	7	70.0%	3	30.0%	10	
Medium of teaching	Tamil	0	0.0%	30	81.1%	7	18.9%	37	$\chi^2=1.05$ P=0.30 (NS)
	English	0	0.0%	16	69.6%	7	30.4%	23	
Handling of classes	1-3rd standard	0	0.0%	21	75.0%	7	25.0%	28	$\chi^2=0.83$ P=0.84 (NS)
	4th -6th standard	0	0.0%	11	84.6%	2	15.4%	13	
	7th – 9th standard	0	0.0%	4	66.7%	2	33.3%	6	
	10th standard	0	0.0%	10	76.9%	3	23.1%	13	
Years of experience in teaching	3-5 years	0	0.0%	10	71.4%	4	28.6%	14	$\chi^2=4.87$ P=0.18 (NS)
	6-8 years	0	0.0%	15	83.3%	3	16.7%	18	
	9-11 years	0	0.0%	19	82.6%	4	17.4%	23	
	12-15 years	0	0.0%	2	40.0%	3	60.0%	5	
Teaching of subjects	Tamil	0	0.0%	18	72.0%	7	28.0%	25	$\chi^2=3.41$ P=0.49 (NS)
	English	0	0.0%	10	66.7%	5	33.3%	15	
	Mathematics	0	0.0%	14	87.5%	2	12.5%	16	
	Science	0	0.0%	2	100.0%	0	0.0%	2	
	Social science	0	0.0%	2	100.0%	0	0.0%	2	
Hours of sleep per day	3 - 5 hours	0	0.0%	13	86.7%	2	13.3%	15	$\chi^2=6.37$ P=0.10 (NS)
	6 - 8 hours	0	0.0%	21	84.0%	4	16.0%	25	
	> 8 hours	0	0.0%	6	50.0%	6	50.0%	12	
	Sleep disturbance	0	0.0%	6	75.0%	2	25.0%	8	
Type of leisure activity	Gardening	0	0.0%	15	71.4%	6	28.6%	21	$\chi^2=3.65$ P=0.30 (NS)
	Painting	0	0.0%	15	93.8%	1	6.3%	16	
	Playing games	0	0.0%	6	66.7%	3	33.3%	9	
	Other activity	0	0.0%	10	71.4%	4	28.6%	14	
Handling of stress by themselves	Listening Music	0	0.0%	19	79.2%	5	20.8%	24	$\chi^2=1.07$ P=0.78 (NS)
	Watching T.V	0	0.0%	10	83.3%	2	16.7%	12	
	Reading Books	0	0.0%	9	75.0%	3	25.0%	12	

	Sharing with friends	0	0.0%	8	66.7%	4	33.3%	12	
Perceived social support	Good	0	0.0%	12	63.2%	7	36.8%	19	$\chi^2=2.83$ P=0.24 (NS)
	Average	0	0.0%	15	83.3%	3	16.7%	18	
	Poor	0	0.0%	19	82.6%	4	17.4%	23	
Distance (km) of working area from residence	1 - 5 kms	0	0.0%	22	75.9%	7	24.1%	29	$\chi^2=1.88$ P=0.32 (NS)
	6 -10 kms	0	0.0%	10	66.7%	5	33.3%	15	
	>10 kms	0	0.0%	14	87.5%	2	12.5%	16	

Table no 4.14: shows the association between pre test level of stress and their demographic variables.

None of the demographic variables are significantly associated with their pre test level of stress score. Statistical significance was calculated using chi square test.

Table 4.15: ASSOCIATION BETWEEN POSTTEST LEVEL OF STRESS AND THEIR DEMOGRAPHIC VARIABLES

Demographic variables		Post test level of Stress score						N	Chi square test
		Mild		Moderate		Severe			
		n	%	n	%	n	%		
Age	25 – 30 Years	10	35.7%	18	64.3%	0	0.0%	28	$\chi^2=9.62$ P=0.02* (S)
	31 - 35 Years	10	71.4%	4	29.6%	0	0.0%	14	
	36 - 40 Years	9	75.0%	3	25.0%	0	0.0%	12	
	41 - 45 Years	5	83.3%	1	16.7%	0	0.0%	6	
Gender	Male	5	62.5%	3	37.5%	0	0.0%	8	$\chi^2=0.12$ P=0.72 (NS)
	Female	29	55.8%	23	44.2%	0	0.0%	52	
Marital status	Married	26	56.5%	20	43.5%	0	0.0%	46	$\chi^2=0.88$ P=0.64 (NS)
	Unmarried	7	63.6%	4	36.4%	0	0.0%	11	
	Widow	1	33.3%	2	66.7%	0	0.0%	3	
Type of school	Government	-							$\chi^2=0.01$ P=0.93 (NS)
	Corporation	14	56.0%	11	44.0%	0	0.0%	25	
	Private	-							
	Government Aided School	20	57.1%	15	42.9%	0	0.0%	35	
Academic qualification	Bachelor degree	13	59.1%	9	40.9%	0	0.0%	22	$\chi^2=2.72$ P=0.44 (NS)
	Master degree	4	40.0%	6	60.0%	0	0.0%	10	
	Degree with M.Phil	15	57.7%	11	42.3%	0	0.0%	26	
	Degree with doctorate	2	100.0%	0	0.0%	0	0.0%	2	
Professional qualification	Diploma in Teacher Education	18	62.1%	11	37.9%	0	0.0%	29	$\chi^2=1.09$ P=0.58 (NS)
	Bachelor of Education	10	47.6%	11	52.4%	0	0.0%	21	
	Master of Education	6	60.0%	4	40.0%	0	0.0%	10	
Medium of teaching	Tamil	22	59.5%	15	40.5%	0	0.0%	37	$\chi^2=0.30$ P=0.58 (NS)
	English	12	52.2%	11	47.8%	0	0.0%	23	
Handling of classes	1-3rd standard	11	39.3%	17	60.7%	0	0.0%	28	$\chi^2=7.95$ P=0.05* (S)
	4th -6th standard	8	61.5%	5	38.5%	0	0.0%	13	
	7th – 9th standard	4	66.7%	2	33.3%	0	0.0%	6	
	10th standard	11	84.6%	2	15.4%	0	0.0%	13	

Years of experience in teaching	3-5 years	4	28.6%	10	71.4%	0	0.0%	14	$\chi^2=8.72$ P=0.03* (S)
	6-8 years	9	50.0%	9	50.0%	0	0.0%	18	
	9-11 years	17	73.9%	6	26.1%	0	0.0%	23	
	12-15 years	4	80.0%	1	20.0%	0	0.0%	5	
Teaching of subjects	Tamil	15	60.0%	10	40.0%	0	0.0%	25	$\chi^2=2.03$ P=0.72 (NS)
	English	8	53.3%	7	46.7%	0	0.0%	15	
	Mathematics	8	50.0%	8	50.0%	0	0.0%	16	
	Science	1	50.0%	1	50.0%	0	0.0%	2	
Hours of sleep per day	Social science	2	100.0%	0	0.0%	0	0.0%	2	$\chi^2=4.96$ P=0.17 (NS)
	3 - 5 hours	12	80.0%	3	20.0%	0	0.0%	15	
	6 - 8 hours	13	52.0%	12	48.0%	0	0.0%	25	
	> 8 hours	6	50.0%	6	50.0%	0	0.0%	12	
Type of leisure activity	Sleep disturbance	3	37.5%	5	62.5%	0	0.0%	8	$\chi^2=1.29$ P=0.73 (NS)
	Gardening	10	47.6%	11	52.4%	0	0.0%	21	
	Painting	10	62.5%	6	37.5%	0	0.0%	16	
	Playing games	6	66.7%	3	33.3%	0	0.0%	9	
Handling of stress by themselves	Others	8	57.1%	6	42.9%	0	0.0%	14	$\chi^2=3.49$ P=0.32 (NS)
	Listening Music	17	70.8%	7	29.2%	0	0.0%	24	
	Watching T.V	6	50.0%	6	50.0%	0	0.0%	12	
	Reading Books	5	41.7%	7	58.3%	0	0.0%	12	
Perceived social support	Sharing with friends	6	50.0%	6	50.0%	0	0.0%	12	$\chi^2=8.47$ P=0.01*** (S)
	Good	15	78.9%	4	21.1%	0	0.0%	19	
	Average	11	61.1%	7	38.9%	0	0.0%	18	
	Poor	8	34.8%	15	65.2%	0	0.0%	23	
Distance (km) of working area from residence	1 - 5 kms	16	55.2%	13	44.8%	0	0.0%	29	$\chi^2=1.58$ P=0.45 (NS)
	6 -10 kms	7	46.7%	8	53.3%	0	0.0%	15	
	>10 kms	11	68.8%	5	31.3%	0	0.0%	16	

Table no -4.15, shows the association between post test level of stress and their demographic variables.

- Elder age school teachers, 10th std handling school teachers, more years of experience school teachers and good perceived social support school teachers are reduced more stress score than others.
- Statistical significance was calculated using chi square test.

Table 4.16: ASSOCIATION BETWEEN STRESS REDUCTION SCORE AND DEMOGRAPHIC VARIABLES

Demographic Variables		Stress Reduction Score						N	One way anova Test
		Pretest		Posttest		Gain score=Post-Pre			
Age	25 – 30 Years	22.61	3.31	15.04	4.27	7.57	4.10	28	F=2.75 P=0.05* (S)
	31 - 35 Years	22.93	3.67	14.20	5.95	8.73	5.40	14	
	36 - 40 Years	21.83	3.01	10.99	4.25	10.84	3.03	12	
	41 - 45 Years	24.50	6.06	12.56	3.78	11.94	4.17	6	
Gender	Male	19.50	3.63	8.38	1.77	11.13	5.06	8	t=1.22P=0.23 (NS)
	Female	23.21	3.42	14.69	4.27	8.62	5.45	52	
Marital status	Married	22.54	4.02	13.76	4.79	8.78	5.93	46	F=0.13 P=0.87 (NS)
	Unmarried	22.91	1.58	13.18	3.82	9.73	3.66	11	
	Widow	24.67	3.06	16.00	4.36	8.67	2.52	3	
Type of school	Government	F=0.15 P=0.87 (NS)
	Corporation	22.20	3.37	13.27	4.69	9.08	5.91	25	
	Private	
Academic qualification	Government Aided School	23.09	3.84	14.26	4.50	8.86	5.14	35	F=1.61 P=0.19 (NS)
	Bachelor degree	22.68	3.99	13.68	4.10	9.00	4.89	22	
	Master degree	22.30	3.40	15.80	5.53	6.50	6.08	10	
	Degree with M.Phil	22.92	3.47	13.54	4.35	9.38	5.16	26	
Professional qualification	Degree with doctorate	22.50	6.36	7.50	3.54	15.00	9.90	2	F=0.18 P=0.83 (NS)
	Diploma in Teacher Education	22.69	4.13	13.34	3.81	9.34	5.20	29	
	Bachelor of Education	22.62	3.26	13.86	5.32	8.76	6.20	21	
	Master of Education	23.00	3.20	14.80	5.22	8.20	4.73	10	
Medium of teaching	Tamil	22.27	3.49	13.51	4.29	8.76	5.17	37	t=0.34 P=0.73 (NS)
	English	23.43	3.86	14.17	5.08	9.26	5.93	23	
Handling of classes	1-3rd standard	22.75	4.17	16.31	4.57	6.44	4.11	28	F=2.75 P=0.05* (S)
	4th -6th standard	21.62	3.50	12.85	4.98	8.77	5.25	13	
	7th – 9th standard	23.17	2.56	13.50	3.67	9.67	4.54	6	

	10th standard	23.54	3.02	12.77	3.52	10.77	5.85	13	
Years of experience in teaching	3-5 years	23.43	2.74	17.57	5.12	5.86	4.64	14	F=2.95 P=0.04* (S)
	6-8 years	22.50	3.50	16.22	3.12	6.28	5.78	18	
	9-11 years	22.30	4.04	12.45	4.10	9.85	5.27	23	
	12-15 years	23.40	5.13	12.70	4.02	10.70	6.61	5	
Teaching of subjects	Tamil	22.48	3.68	13.20	4.39	9.28	5.23	25	F=0.60 P=0.66 (NS)
	English	23.40	4.76	13.73	4.74	9.67	6.16	15	
	Mathematics	22.75	2.89	14.94	4.33	7.81	4.69	16	
	Science	21.00	1.41	15.50	10.61	5.50	12.02	2	
	Social science	22.00	.00	10.00	.00	12.00	.00	2	
Hours of sleep per day	3 - 5 hours	22.67	2.99	11.73	3.47	10.93	5.02	15	F=1.35 P=0.26 (NS)
	6 - 8 hours	22.32	3.93	14.36	4.94	7.96	5.22	25	
	> 8 hours	23.50	4.36	13.75	4.59	9.75	6.47	12	
	Sleep disturbance	22.87	3.09	15.75	4.56	7.12	4.64	8	
Type of leisure activity	Gardening	23.19	4.30	14.71	5.22	8.48	5.54	21	F=0.08 P=0.92 (NS)
	Painting	22.31	2.60	13.13	3.67	9.19	4.76	16	
	Playing games	21.89	4.34	12.44	3.64	9.44	4.53	9	
	Others	23.00	3.37	13.93	5.12	9.07	6.86	14	
Handling of stress by themselves	Listening Music	22.46	3.55	12.13	3.54	10.33	3.91	24	F=1.36 P=0.26 (NS)
	Watching T.V	21.92	3.92	14.33	4.83	7.58	5.78	12	
	Reading Books	22.75	3.05	15.75	5.55	7.00	6.19	12	
	Sharing with friends	24.00	4.20	14.50	4.56	9.50	6.60	12	
Perceived social support	Good	24.37	3.48	12.87	4.21	11.50	5.62	19	F=3.23 P=0.04* (S)
	Average	21.72	3.77	13.22	2.60	8.50	5.31	18	
	Poor	22.13	3.35	14.65	3.94	7.48	4.79	23	
Distance (km) of working area from residence	1 - 5 kms	22.79	4.04	13.59	4.72	9.21	6.00	29	F=0.21 P=0.81 (NS)
	6 -10 kms	23.40	3.40	14.13	4.24	9.27	4.71	15	
	>10 kms	21.94	3.15	13.75	4.88	8.19	5.21	16	

Table no- 4.16 shows the association between stress reduction score and their demographic variables.

- Elder age school teachers, 10th std handling school teachers, more years of experience school teachers and good perceived social support school teachers are reduced more stress score than others.
- Statistical significance was calculated using one-way analysis of variance F-test and student independent t-test.

CHAPTER-V

DISCUSSION

This chapter deals with the discussion of the results of the data analysed based on objectives of the study and the hypothesis. The purpose of the study to assess the effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai. The detailed description of the study findings gathered from the statistical analysis. Stress is one of the major health issues of school teachers.

Laughter therapy is the methods of healing, contributing countless benefits. Laughter healing is not intended to replace the allopathic medicine, but rather to complement it. Laughing is aerobic, providing a workout for the diaphragm and increasing the body's ability to use oxygen and reducing stress hormones.

The data is gathered from the school teachers who revealed the negative aspects of stress and importance of laughter therapy.

5.1 The data was statistically analyzed and the finding was discussed under the objectives formulated by the researcher.

➤ **Section I:**

Deals with Socio demographic profile of the school teachers.

➤ **Section II:**

Stress level of the school teachers before laughter therapy intervention.

➤ **Section III:**

Stress level of the school teachers after laughter therapy intervention

➤ **Section IV:**

Effectiveness of the laughter therapy

➤ **Section V:**

Associate the effectiveness of laughter therapy with selected demographic Variables.

OBJECTIVE -1:

To assess the pre-test level of stress among the school teachers by using a perceived stress scale.

The pre test level of stress among school teachers was assessed by using Structured questionnaire of perceived stress scale. It denotes the percentage of pre test level of stress score in general , none of the school teachers are having Low level stress score and 76.7% of them having moderate level of stress score and 23.3%of them are having High level of stress score.

This study is consistent with the study conducted by

Solomon et.al(2017),conducted a study to assess the level of stress among school teachers in selected schools at Vellore,adopted non experimental research design with 80 higher secondary school teachers were selected by using convenient sampling technique from two schools of Vellore District. The study results showed that a majority of teachers i.e. 34 (42.5%) had moderate level of stress followed by 23 (28.75%) of teachers had mild stress and severe level of stress respectively.The study results also revealed that educational status and years of experience had statistical significance with level of stress at $p<0.05$. The study finding reveals the importance of being self-aware about stress and taking steps to keep it under control by using various stress management techniques.

Harmsen,Lorenz,Maulana, Vanveen,(2018) conducted a study to adjust the Questionnaire on the Experience and Evaluation of Work (QEEW) in order to measure stress causes and stress responses of beginning secondary school teachers in the Netherlands. First, the suitability of the original QEEW stress scales for use in the beginning teachers (BTs) context was investigated using a sample of 356 beginning teachers from 52 different secondary school locations in the Netherlands. To cross-validate the results and to examine the internal consistency and validity of the adjusted instrument a different sample of 143 beginning teachers from 61 different secondary school locations in the Netherlands was used.

The findings of the study provide adequate support that the QEEW-BT is a reliable and valid instrument to measure stress causes and responses for beginning secondary school teachers in the Netherlands²⁹.

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OBJECTIVE-2:

To assess the level of stress among the school teachers after the laughter therapy.

The post test level of stress among school teachers was assessed by using Structured questionnaire of perceived stress scale. It denotes the percentage of post test level of stress score.In general ,56.7% of school teachers are having Low level of stress score,43.3% of them having moderate level of stress score and none of them are having High level of stress score.

The investigator study is consistent with similar study conducted by

Dhivagar,Prabavathy, Renuka, K.(2016) and indicates that laughter therapy was significantly effective in reducing stress and anxiety among elderly at selected old age home, Puducherry. The Pre- experimental study with one group pretest and posttest design was conducted among 60 elderly of Hospice using simple random sampling technique. The study result showed that out of 60 elderly, the post-test level of stress median score (17.5) was significantly less than the pre-test level of stress median score (23.5) by using Wilcoxon Signed Ranks test. Thus this study proves that “Laughter therapy was effective in reduction of Stress and Anxiety among elderly”, who residing in Old Age Home⁴⁹.

OBJECTIVE -3:

To evaluate the effectiveness of laughter therapy on the level of stress among the school teachers.

The laughter therapy was practiced for 20 minutes among government aided school teachers and corporation school teachers alternative days continuously. Before laughter therapy, none of the school teachers are having low level stress score, and 76.7% of them having moderate level of stress score, and 23.3% of them are having High level of stress score.

After laughter therapy, 56.7% of school teachers are having Low level of stress score, 43.3% of them having moderate level of stress score and none of them are having High level of stress score.

Level of stress reduction score between pre test and post test was calculated using Generalised McNemar's chi square test.

On an average, in post test after having laughter therapy, school teachers are reduced 22.37% stress score than pre test score.

Differences and generalization of stress reduction score between pre test and post test score was calculated using and mean difference with 95% CI and proportion with 95% CI.

In this study effectiveness of the study is point estimate of 22.37% and interval estimate is 18.87% to 25.87%. It means in this similar setup of the study, whom ever conducted, 95 % we can assure effectiveness of the study will lie between 18.87 to 25.87% stress score reduction.

The similar study conducted by

Kim (2015) conducted a randomized controlled trial study was to examine the effect of a therapeutic laughter program and the number of program sessions on anxiety, depression, and stress in breast cancer patients was conducted involving 31 patients who received four sessions of therapeutic laughter program comprised and 29 who were assigned to the no-program control group. Scores for anxiety, depression, and stress were measured using an 11-point numerical rating scale. While no change was

detected in the control group, the program group reported reductions of 1.94, 1.84, and 2.06 points for anxiety, depression, and stress, Scores decreased significantly after the first therapeutic laughter session ($p < 0.05$, $p < 0.01$, and $p < 0.01$). As the therapeutic laughter program was effective after only a single session in reducing anxiety, depression, and stress in breast cancer patients, it could be recommended as a first-line complementary/alternative therapy⁵⁵.

Elamathi.E (2015) conducted study is aimed to assess the effectiveness of laughter therapy in reduction of stress among the elderly people adopted pre experimental design by non-probability convenient sampling technique (n=60) and pre-existing level of stress among the elderly and post-test was done by structured questionnaire. After pre-test, laughter therapy was practiced with elderly people, the levels of stress among the elderly people were analyzed .The overall pre-test stress score among elderly people was 62.6% whereas in post-test it was 29.9%. So the significance difference between pre-test and post- test stress score is 32.6%. There is a close association in the level of stress reduction and their demographic variables like age of elderly, educational status and duration of stay statistically significance,hence the finding revealed that laughter therapy was effective and helped the elderly people to reduce their stress level⁶³.

OBJECTIVE -4:

To associate the level of stress with their selected demographic variables

It revealed the association between the level of stress among school teachers with selected demographic variables such as age, sex, religion, type of school, academic qualification, professional qualification, types of leisure activity, hours of sleep per day, distance of travel.

It shows the association between pre test levels of stress score among school teachers with their demographic variables. None of the demographic variables are significantly associated with their pre test level of stress score. Statistical significance was calculated using chi square test.

The finding of the present study shows the association between post test level of stress and their demographic variables. When considering the age 25 -45 years of school teachers, elder teachers (41-45 years of age) have reduction of 83.3% Low stress 16.7% moderate stress level, after laughter therapy. This is statistically significant (p Value=0.02).

Considering the handling of classes from 1-12 th standard,10 th standard handling teachers stress level has significantly reduced i.e,84.6% Low stress and 15.4% moderate stress. This is also statistically significant. (P value= 0.02).

When considering the years of experience school teachers from 3-15 years ,12-15 years experience teachers have Low stress score 80% and moderate stress score 20%.This is statistically significant (**P=0.03**).

When considering the perceived social support, good support getting teachers stress score Low 78.9%,moderate 21.1%.this is statistically significant (p=0.01^{*})

Hence Elder age school teachers, 10thstd handling school teachers ,more years of experience school teachers and good perceived social support school teachers are reduced more stress score than others. Statistical significance was calculated using chi square test and one way analysis of variance F-test and student independent t-test.

The similar study consistent with my study

Jansy L.M(2016) conducted a study to assess the effectiveness of laughter therapy on reducing stress among working personnel in selected hospital at Chennai”by Pre experimental one group pre test and post test design ,random sampling technique (Lottery Method) used to selecting 60 samples , the study results shows that mean increase = 1.4 and S.D difference was 6.4 with the significant level of P= 0.005 decreases in stress level and **the socio demographic variables like education and religion were associated with effectiveness of laughter therapy**⁶⁷.

Shanmugam.R,Susila.C, J. Anitha (2013) assesses the effectiveness of laughter therapy on the level of stress among school teachers adopted one group pre test and post test design with purposive sampling technique was used to select the sample as middle school teachers.the result shows in the pre test, the overall mean of level of stress was 80.56 with SD of 8.48.In the post test, the overall mean of level of stress was 48.56 with SD of 9.25.The paired “t” test value is significant at 24.59.It was

statistically significant at $p < 0.05$ level. This findings revealed that there was significant association of the level of stress with demographic variables like age, interpersonal, educational status, monthly income, type of family, parenting style of school teachers. The investigators concluded that information, education, practice and communication package on laughter therapy was an effective method to reduce the level of stress among school teachers.

HYPOTHESIS:

H₁.There is significant difference between pre test and post test level of stress among school teachers.

The reduction of teachers' level of stress from 22.72 to 13.77 after the administration of laughter therapy. Difference is 8.95, this difference is statistically significant. Statistical significance was calculated by using student's paired 't' test.

H₂.There is significant association between post test level of stress among school teachers with selected demographic variables.

The findings revealed the demographic variables such as elder age, handling classes for 10 th standard, more years of experience, good perceived support were found to be significantly associated at <0.05 levels.

Hence research hypothesis H2 is accepted. Finally

H: school teachers who received laughter therapy on stress shows a significant reduction in the level of stress in post-test than pre-test.

From the findings of the present study it was concluded that the effectiveness of laughter therapy reduces the stress among school teachers who participated in the study. **Thus the hypothesis was proved statistically.**

CHAPTER-VI

SUMMARY, IMPLICATION, RECOMMENDATION AND CONCLUSION

This is the most important part of this study. This chapter reveals a study on the effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai. Laughter is a eustress state -- a state that produces healthy or positive emotions. After exposure to laughter, increase in activity within the immune system. Levels of epinephrine were lower in the group both anticipation and exposure to laughter.

This chapter gives a brief account of the present study including summary, finding and conclusion, limitations, recommendations and nursing implications.

6.1.SUMMARY

Teachers are in a unique position to have a direct impact on their students. Teachers can see their work in action, see the changes they affect, and in so doing they witness first hand their goals coming to fruition. Demand on Teachers develops new knowledge and skills to perform new tasks are rapidly. This often leads to overwhelming pressures and challenges for the faculty, which consequently leads to conflict and stress.

Stress is a multidimensional and multi-level phenomenon which is influenced by personal, situational or structural factors. Stress is recognized as an occupational distress resulting in significant human illness, both physical and psychological. Laughter has been linked, on a biological level, with reductions in stress and pain, as well as in healing improvement.

So the researcher conducted a study to assess the effectiveness of laughter therapy on stress among school teachers in selected schools at Chennai. The data was collected for 4 weeks in selected schools like Govt.Aided school and corporation school, Chennai from 02.01. 2018 to 29.01. 2018. The collected data was analyzed by using the descriptive statistics (percentage, mean, standard deviation) and inferential statistics (student paired t test and chi square test). The study findings were discussed based on the objectives.

6.2. MAJOR FINDINGS OF THE STUDY

6.2.1: Findings of socio demographic profile of the school teachers

- 46.7% of teachers in the age group of 25-30 years , 23.3% of teachers in the age group of 31-35 years , 20.0% of teachers in the age group of 36-40 years ,10.0% of teachers in the age group of 41-45 years.
- Majority of teachers were female in 86.7% and the male was 13.3%.76.7% married 18.3% were unmarried,5% were widow.
- School teachers of government aided school were 58.3%,followed by corporation school teachers were 41.7%
- Academic qualification of teachers were 43.3% in Degree with M.Phil., 36.7% in Bachelor degree, 16.7% Master degree, 3.3%degree with doctorate.
- Professional qualification of teachers in diploma in teacher education 48.3%, Bachelor of Education 35.0%, Master of Education were 16.7%.
- Medium of teaching in Tamil were 61.7%,English were 38.3%
- Handling of classes standards in 1-3rd standard 46.6%, 4-6 th standard & 10th standard 21.7%, 7th -9 th standard handling teachers were 10.0%.
- Years of experience in teaching 9-11 years were 38.3%6-8 years were 30.0%,3-5 years were 23.4%,12-15 years were 8.3%.
- Teaching of subjects of Tamil were 41.7%, Mathematics were 26.7%,English were 25.0%,science and social science were 3.3%(same).
- Hours of sleep per day of school teachers 6 - 8 hours 41.7%,3 - 5 hours 25.0%> 8 hours20.0% sleep disturbance 13.3%
- Type of leisure activity of teachers Gardening 35.0%, Painting 26.7% Other leisure activity 23.3% Playing games 15.0%
- Handling of stress by themselves of teachers were Listening Music 40.0%,watching TV 20.0% Reading Books 20.0% Sharing with friends20.0%
- Perceived social support among teachers were Poor 38.3%,good 31.7%,average 30.0%
- Distance (km) of working area from residence of teachers were 1 - 5 kms 48.3%>10 kms26.7%6 -10 kms25.0%

6.2.2: Finding the level of stress among the school teachers before Laughter therapy.

In general , none of the school teachers are having mild level stress score and 76.7% of them having moderate level of stress score and 23.3% of them are having severe level of stress score.

6.2.3: Finding the level of stress among the school teachers after Laughter therapy

In general ,56.7% of school teachers are having mild level of stress score , 43.3% of them having moderate level of stress score and none of them are having severe level of stress score.

6.2.4: Finding the pre test and post-test level of stress score among school teachers

- Before laughter therapy, none of the school teachers are having mild level stress score and 76.7% of them having moderate level of stress score and 23.3%of them are having severe level of stress score.
- After laughter therapy, 56.7% of school teachers are having mild level of stress score 43.3% of them having moderate level of stress score and none of them are having severe level of stress score.
- Level of stress reduction score between pre test and post test was calculated using Generalised McNemar's , chi-square test.

6.2.5: Finding the effectiveness of laughter therapy on stress among school teachers

- On an average, school teachers are reduced their stress from 22.72 to 13.77 after the administration of laughter therapy. Difference is 8.95, This difference is statistically significant. Statistical significance was calculated by using student's paired 't'test.
- On an average,in post test after having laughter therapy, school teachers are reduced22.37% stress score than pre test score.
- Differences and generalization of stress reduction score between pre test and post test score was calculated using and mean difference with 95% CI and proportion with 95% CI.

- In this study effectiveness of the study is point estimate of 22.37% and interval estimate is 18.87% to 25.87%. It means in this similar setup of the study, whom ever conducted, 95 % we can assure, effectiveness of the study will lies between 18.87 to 25.87% stress score reduction.

6.2.6: Finding of an association of pre test stress level with selected socio demographic variables

The association between pre test level of stress and their demographic variables:

- None of the demographic variables are significantly associated with their pre test level of stress score. Statistical significance was calculated using chi square test.

6.2.7: Finding the the association between stress reduction score and their demographic variables.

The association between post test level of stress and their demographic variables:

- Elder age school teachers, 10thstd handling school teachers, more years of experience school teachers and good perceived social support school teachers are reduced more stress score than others.
- Statistical significance was calculated using chi square test.

6.3 IMPLICATIONS OF THE STUDY:

6.3.1 Nursing practice:

- ❖ Nurses play an important role in reducing stress and independent practitioner in primary level by implementing alternative and complementary therapies.
- ❖ Incorporating this laughter therapy in regular practice will beneficial for all the clients.
- ❖ Nurses can also become influential “agents of change” through continuous instruction regarding laughter therapy.
- ❖ The nurse develops a self instructional module aimed at imparting knowledge on laughter therapy on reduction of stress among personnel’s in hospital.

- ❖ Laughter therapy can be practiced by nurses working in high dependency areas like ICU, CCU, emergency wards and in operation theatres
- ❖ The nurse should create awareness among working personnel regarding laughter therapy to reduce the level of work stress.

6.3.2.Nursing education:

- ❖ Nursing curriculum is a measure for motivating the students “to hunt for knowledge” and the curriculum is responsible for preparing future nurses
- ❖ Stress is one of the main problems faced by the student nurses with clinical setting can practice laughter therapy exercises during their clinical experience
- ❖ Since, laughter therapy as one of the relaxation therapy, is included in B.Sc (N) curriculum, it can be included in GNM as well as in MSC (N) curriculum as an intervention to reduce stress.
- ❖ The faculty members can motivate the students to practice laughter therapy and educate them regarding the importance and therapeutic benefits of laughter.

6.3.3Nursing Administration:

- ❖ The findings of the study can be made use of by the health care personnel holding the administrative positions to formulate policies and make necessary changes in the clinical education and health care delivery system.
- ❖ The nurse administrators can recognize the importance of laughter therapy in reducing work related stress and can provide opportunity to practice these therapies in the clinical settings.
- ❖ Nursing leaders can take interest in organizing in-service education programme regarding effectiveness of laughter therapy on stress for the nurses working in various settings.
- ❖ Administrators should motivate the public to joint laughter therapy session and get benefit from them.
- ❖ Administrators in both local, state and central government can take necessary steps to publish articles in the journal explaining the importance and benefits of laughter therapy technique.

6.3.4. Nursing Research:

- ❖ The findings of the study will serve as the basis for the student nurses to conduct future qualitative and quantitative research on laughter therapy and also to identify the different methods of relaxation which can bring down severity of stress.
- ❖ Many more studies can be done to assess the effectiveness of the highly feasible and less expensive therapies in various other conditions and settings with more number of samples.
- ❖ This study will serve as a valuable reference material for future investigations.
- ❖ The nurse researcher should conduct workshops, seminars, and poster sessions and should publish research findings in journals to communicate findings to nursing professionals.

6.3.5. Community:

- ❖ Health education programmes can be conducted by the nursing personnel in community setting, help in imparting knowledge to teachers and other public about the benefits of laughter therapy in reducing stress.

6.4.RECOMMENDATIONS

Based on the study findings, the following recommendations are stated:

- ❖ A similar study can be undertaken in large samples to generalize the findings
- ❖ A comparative study can be done on male and female teachers and also in private and government school teachers
- ❖ A similar study can be done as a true Experimental study to evaluate the effectiveness of Laughter therapy on stress among IT professionals.
- ❖ A similar study can be done on patients with terminal illness
- ❖ A similar study can be conducted by using other relaxation techniques like music therapy, calisthenics exercise, yoga and meditation.

6.5. LIMITATIONS OF THE STUDY

- The use of a purposive sampling technique is limitation to this study, which greatly limits its generalizability.
- Teachers with more than 6 months of experience were included in the study.

- No further attempt was made to do the follow up in the assessment of the effectiveness of laughter therapy on level of stress.
- The study was limited to evaluate the effectiveness of laughter therapy only on stress among teachers.
- The stress level was assessed based on the score obtained.
- Another limitation is that this study was conducted at selected schools at Chennai and the results can only be generalised to those areas with a similar make-up.
- Due to the time limitation, only few laughter therapy techniques were implemented.

6.6CONCLUSION:

Learning evidence based care gives the opportunity to nurses to improve their ability and to use theoretical knowledge in practice. Before administration of laughter therapy more teachers having moderate and severe stress level. After administration of laughter therapy, the level of stress was reduced among School teachers. Thus, the study strongly suggests that there is an effectiveness of laughter therapy reducing stress among school teachers in selected schools. Laughter therapy is safer and more effective intervention on the time of stress. This chapter highlights the importance of this research and reveals that there was significant association between the of the level of stress with selected demographic variables like elder age, 10th std handling, more years of experience and good perceived social support, school teachers reduced more stress score than others. Statistical significance was calculated using chi square test and one way analysis of variance F-test, student independent t-test. So Laughter therapy has significant impact in the reductions of stress level among school teachers are significant.

The findings of the study are consistent with the literature and have support from studies conducted throughout the world and our India.

FIGURE :2.2.1
CONCEPTUAL FRAME WORK BASED ON MODIFIED IMOGENE
KING'S GOAL ATTAINMENT THEORY (1981)

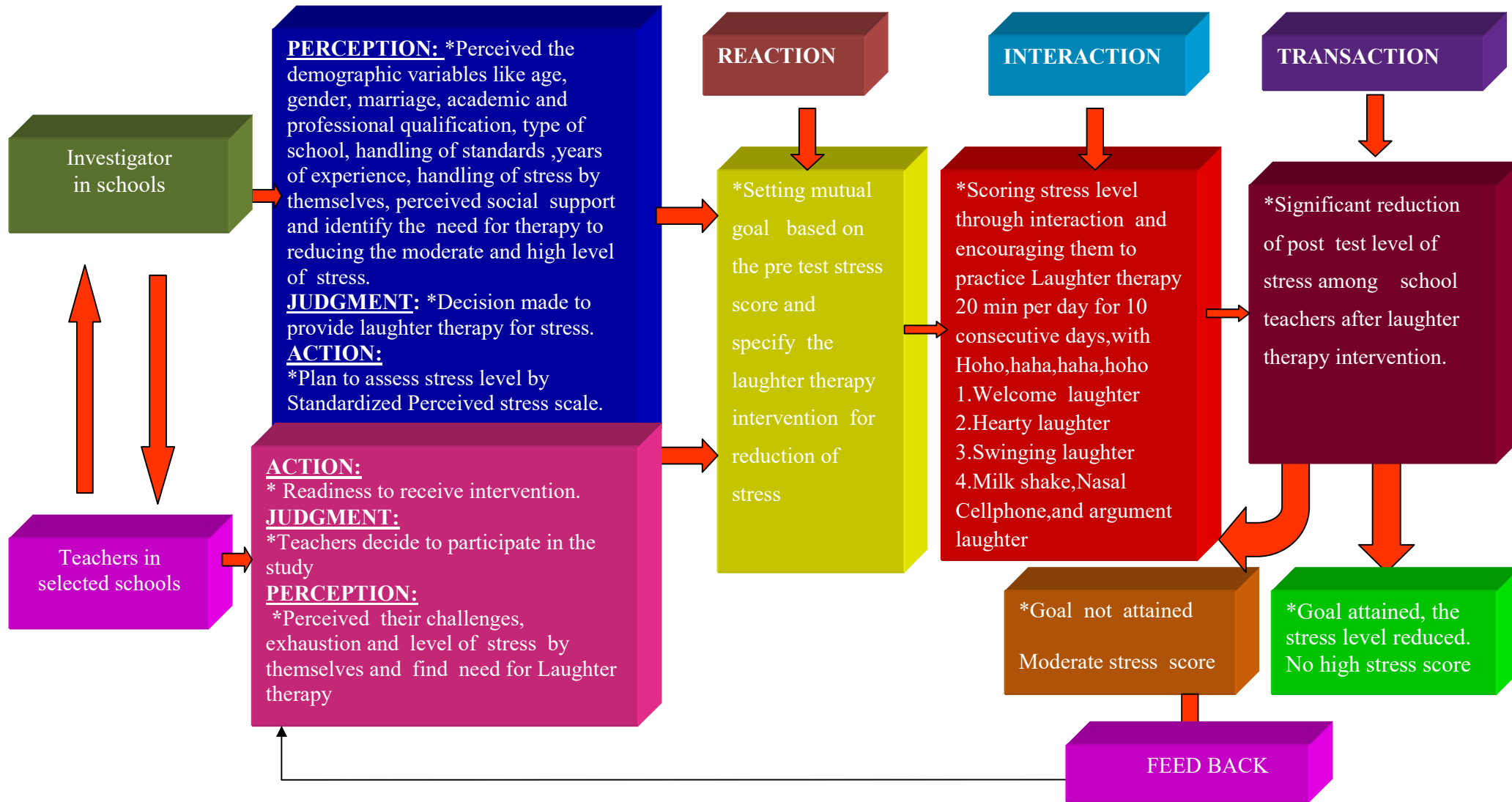
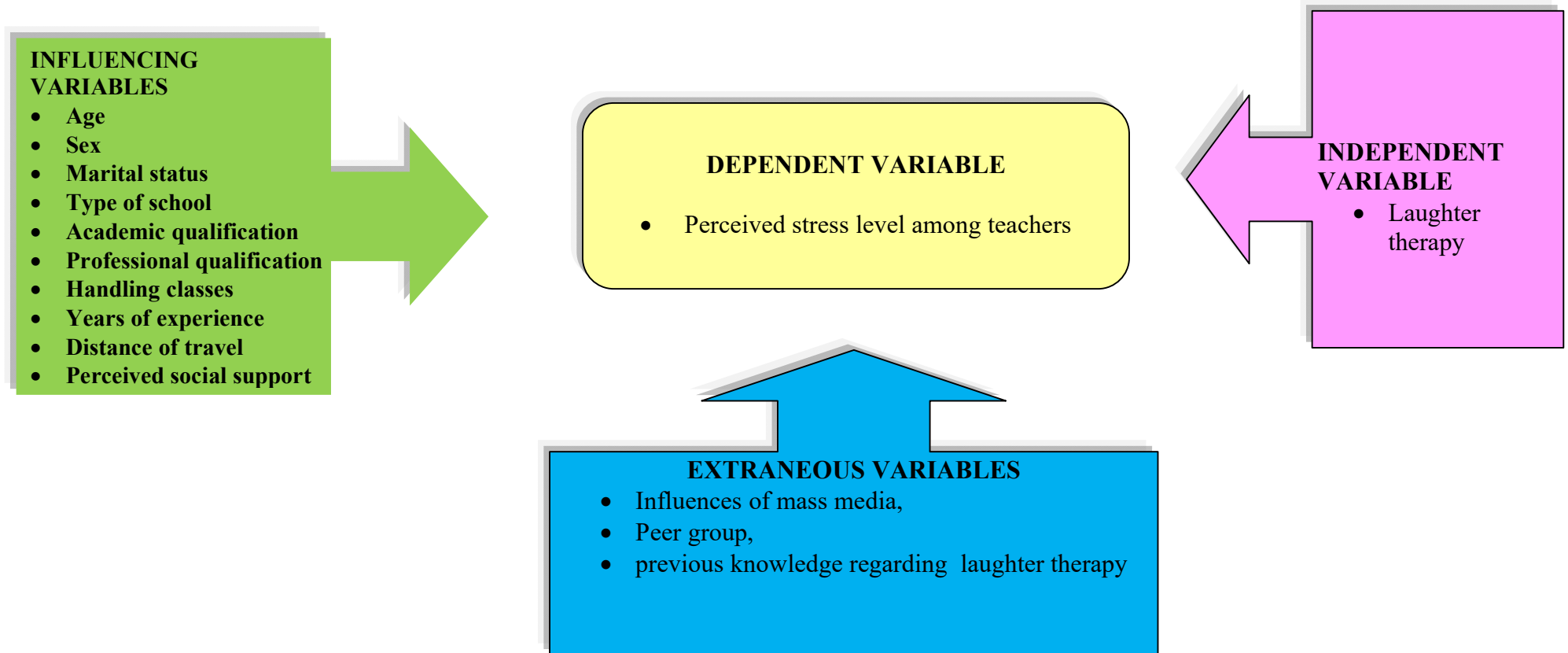


FIGURE.3.3.1
RELATIONSHIP BETWEEN THE VARIABLES



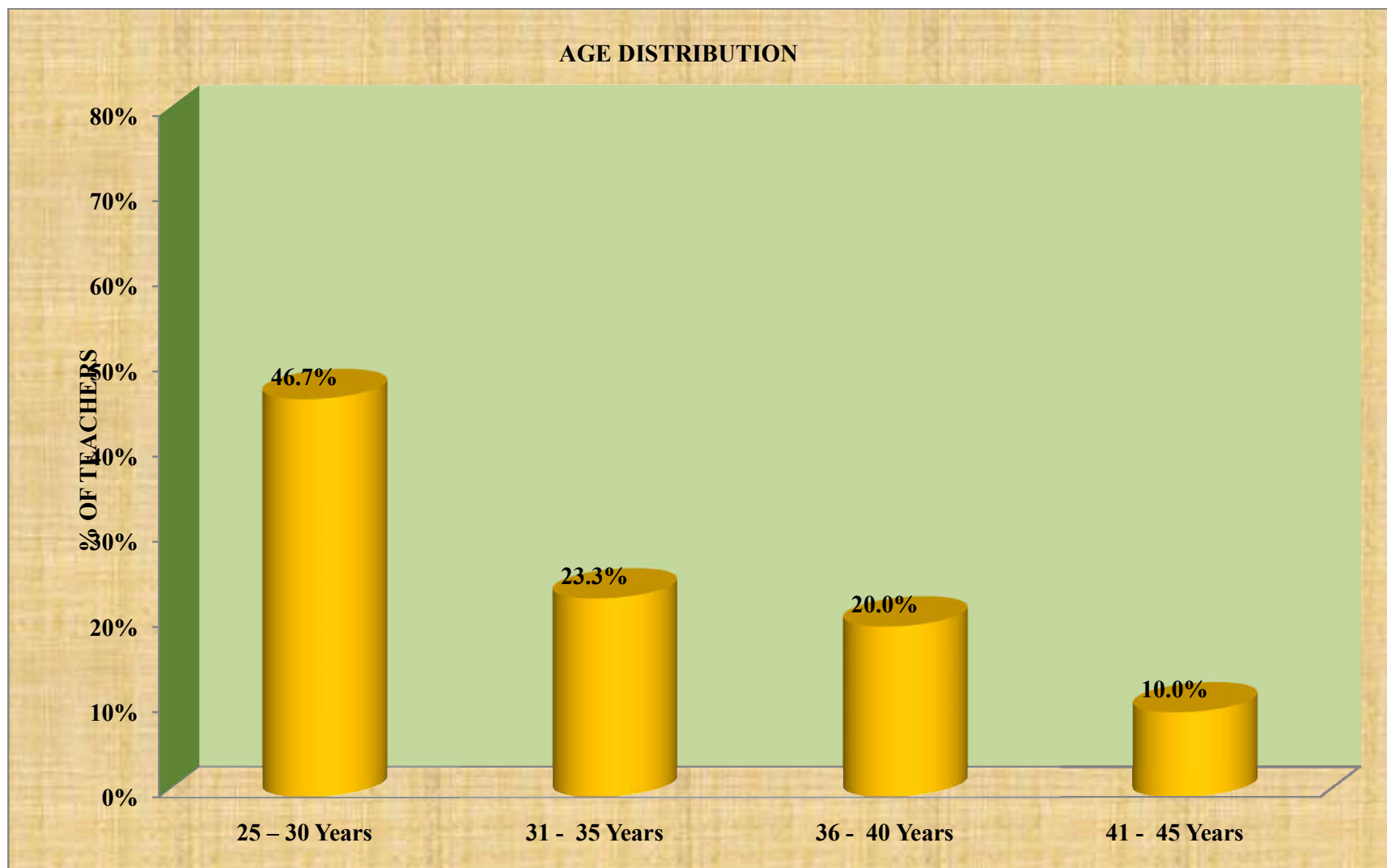


FIG.4.1. ,AGE WISE DISTRIBUTION OF SCHOOL TEACHERS

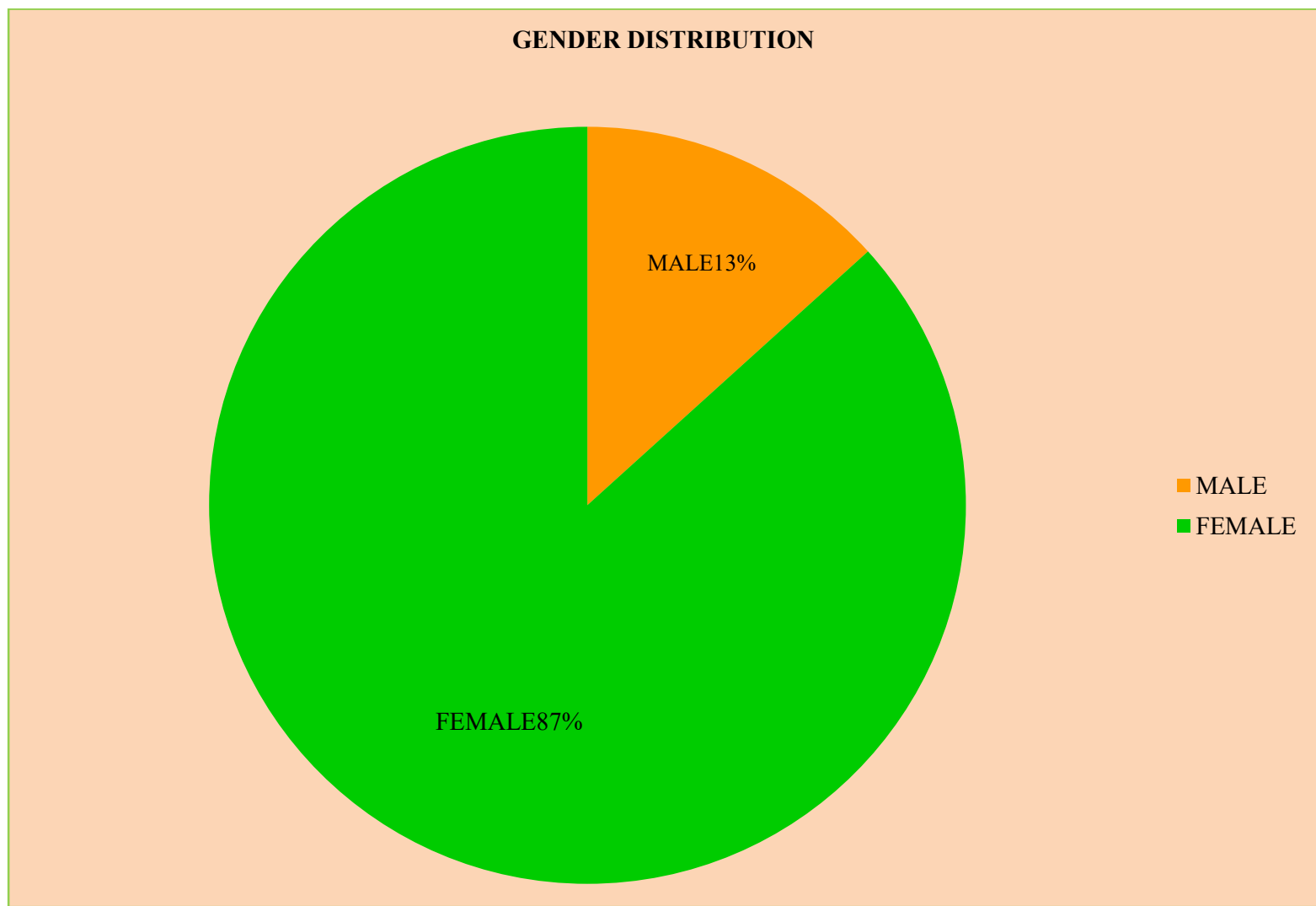


FIG.4.2, GENDER DISTRIBUTION OF TEACHERS

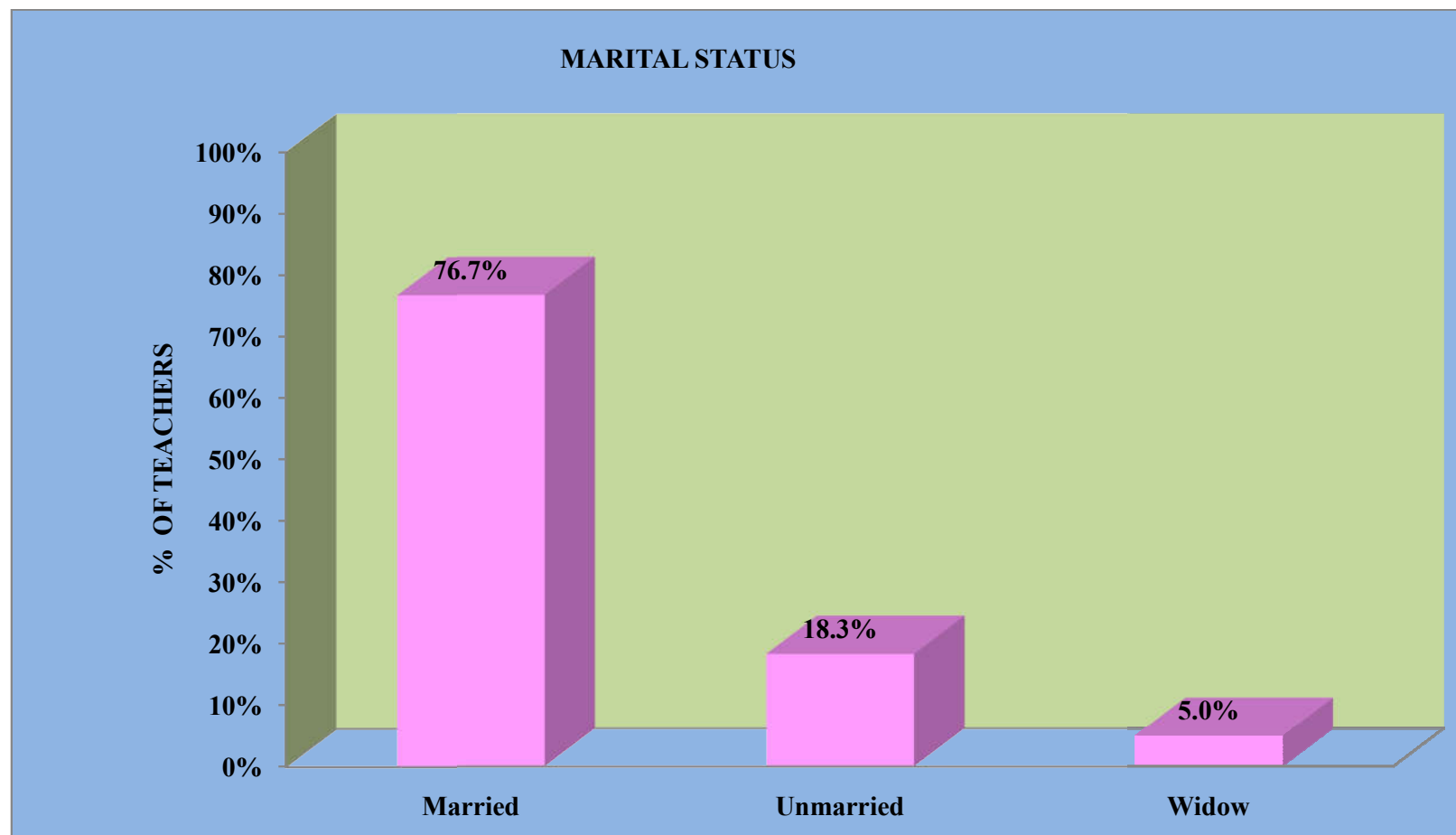


FIG.4.3, MARITAL STATUS OF SCHOOL TEACHERS

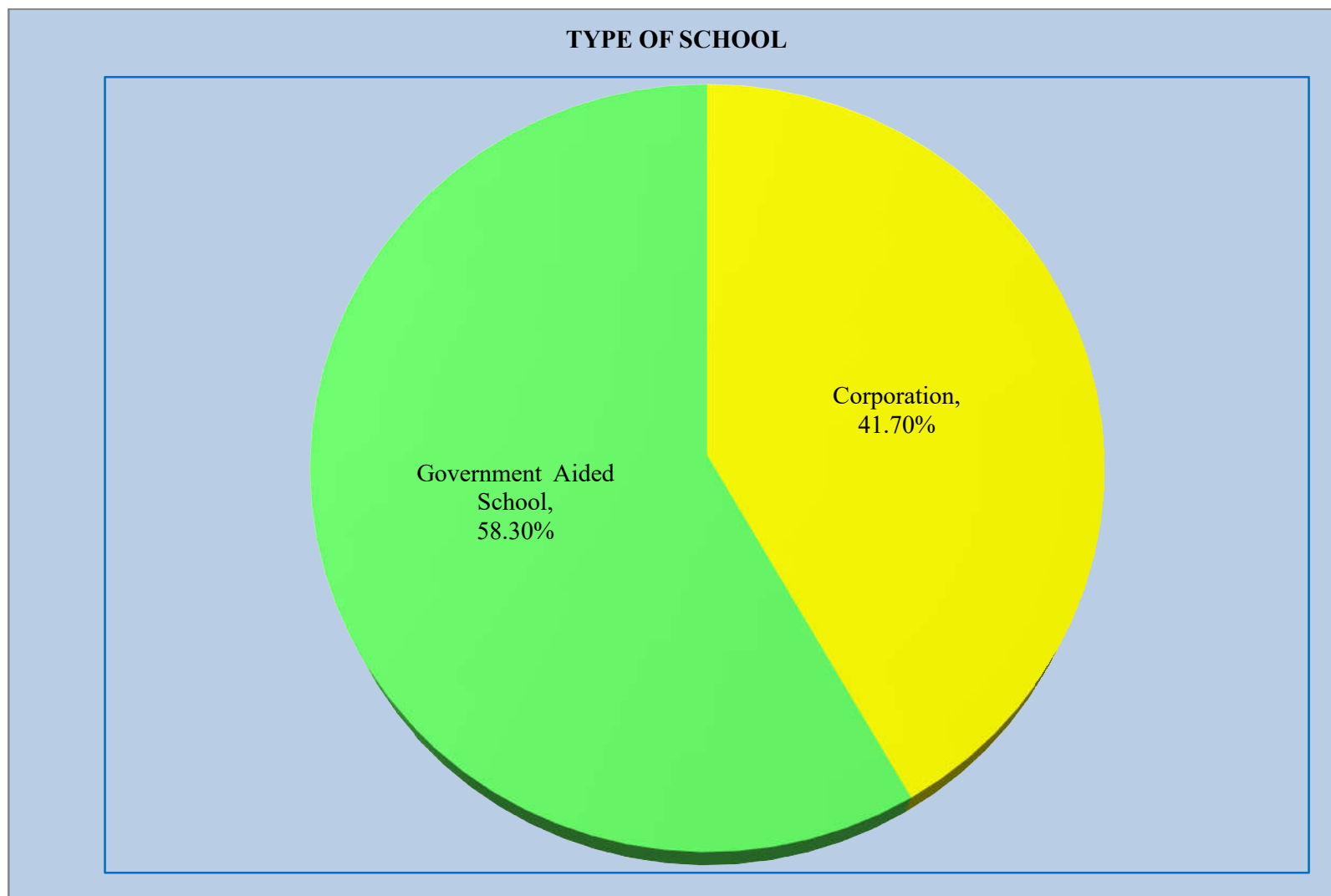


FIG.4.4 TYPE OF SCHOOL OF TEACHERS WORKING

ACADEMIC QUALIFICATION

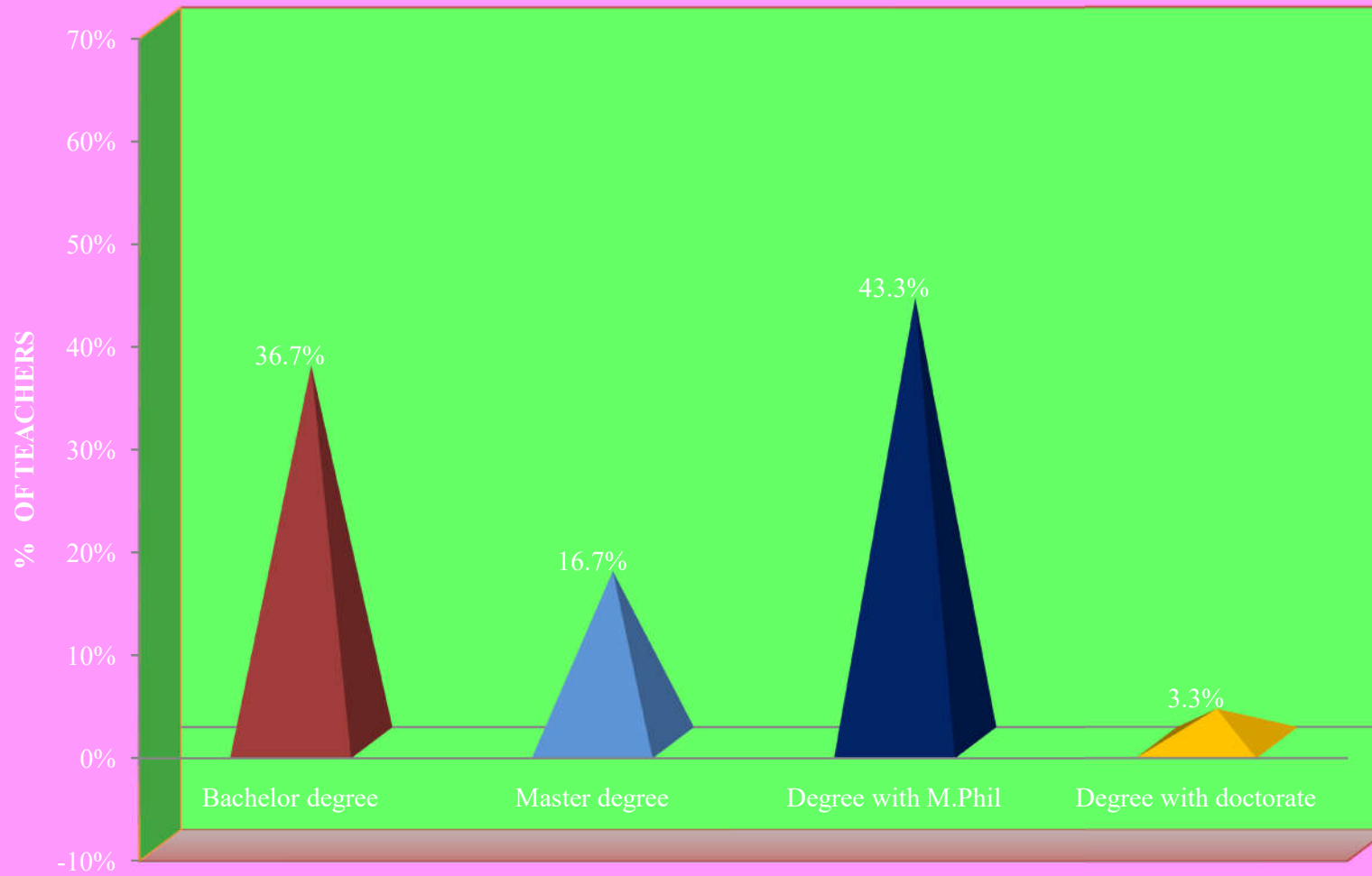


FIG.4.5 SHOWS ACADEMIC QUALIFICATION OF TEACHERS

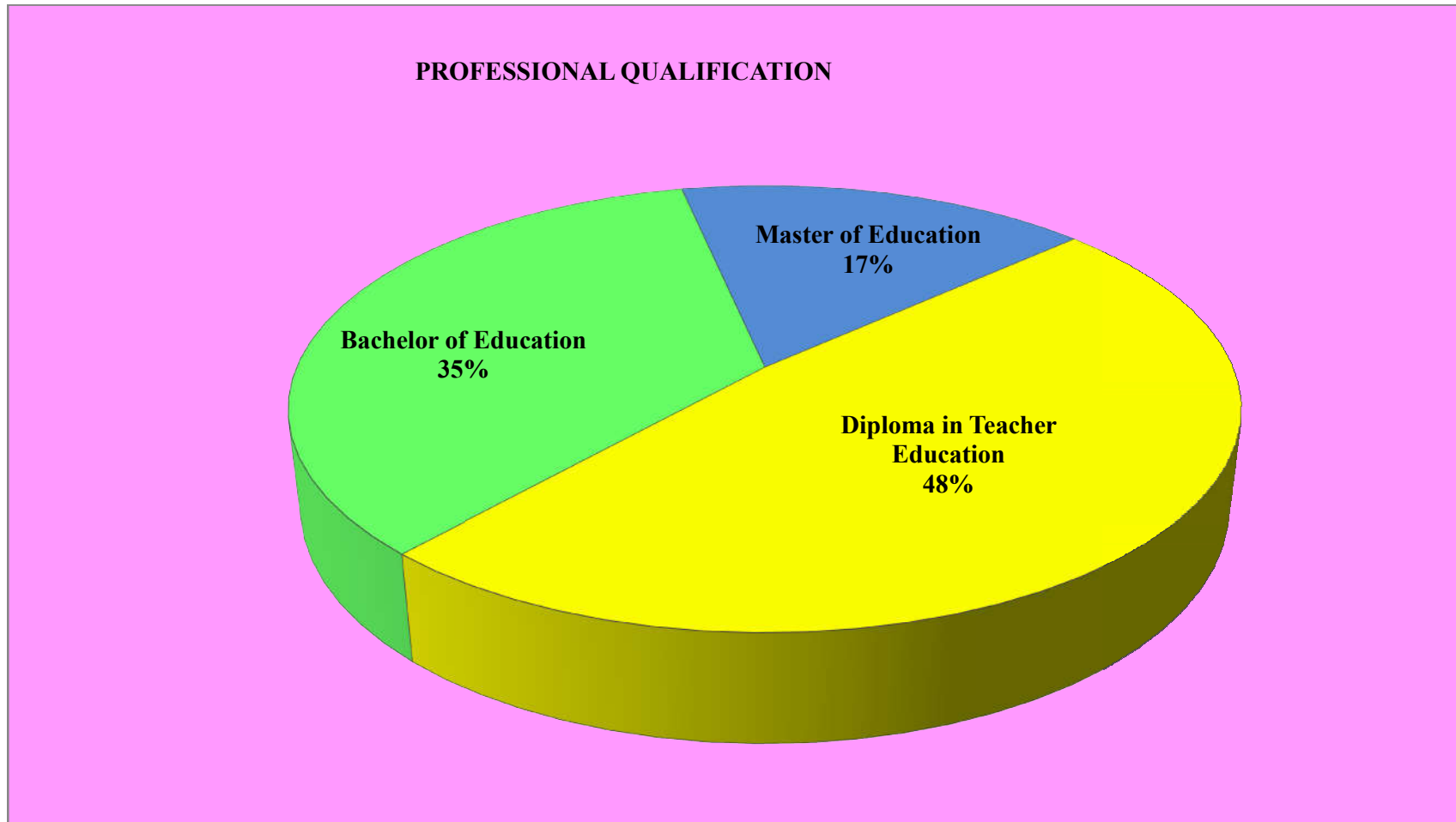


FIG.4.6, PROFESSIONAL QUALIFICATION OF TEACHERS

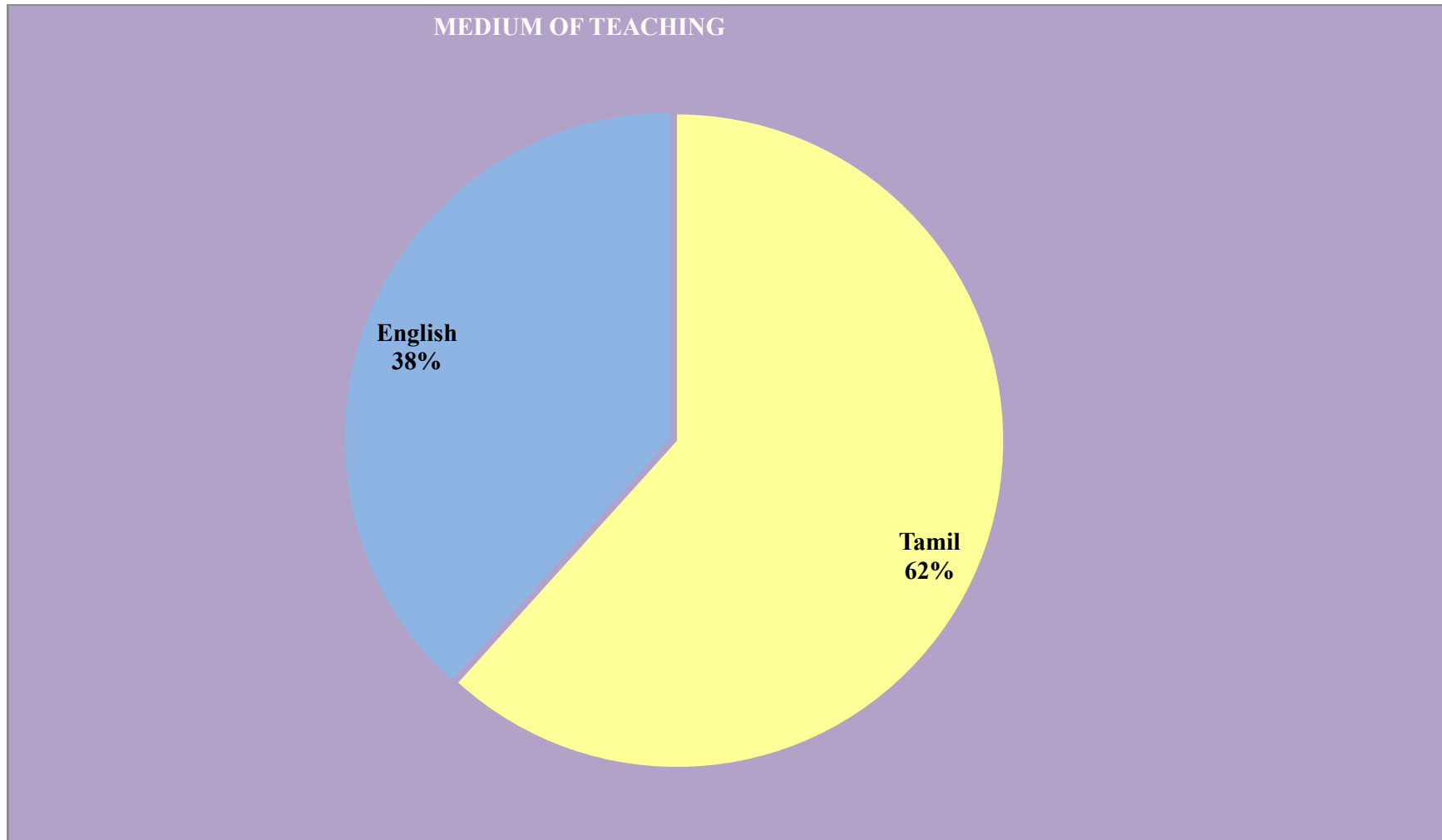


FIG.4.7,MEDIUM OF TEACHING AMONG TEACHERS

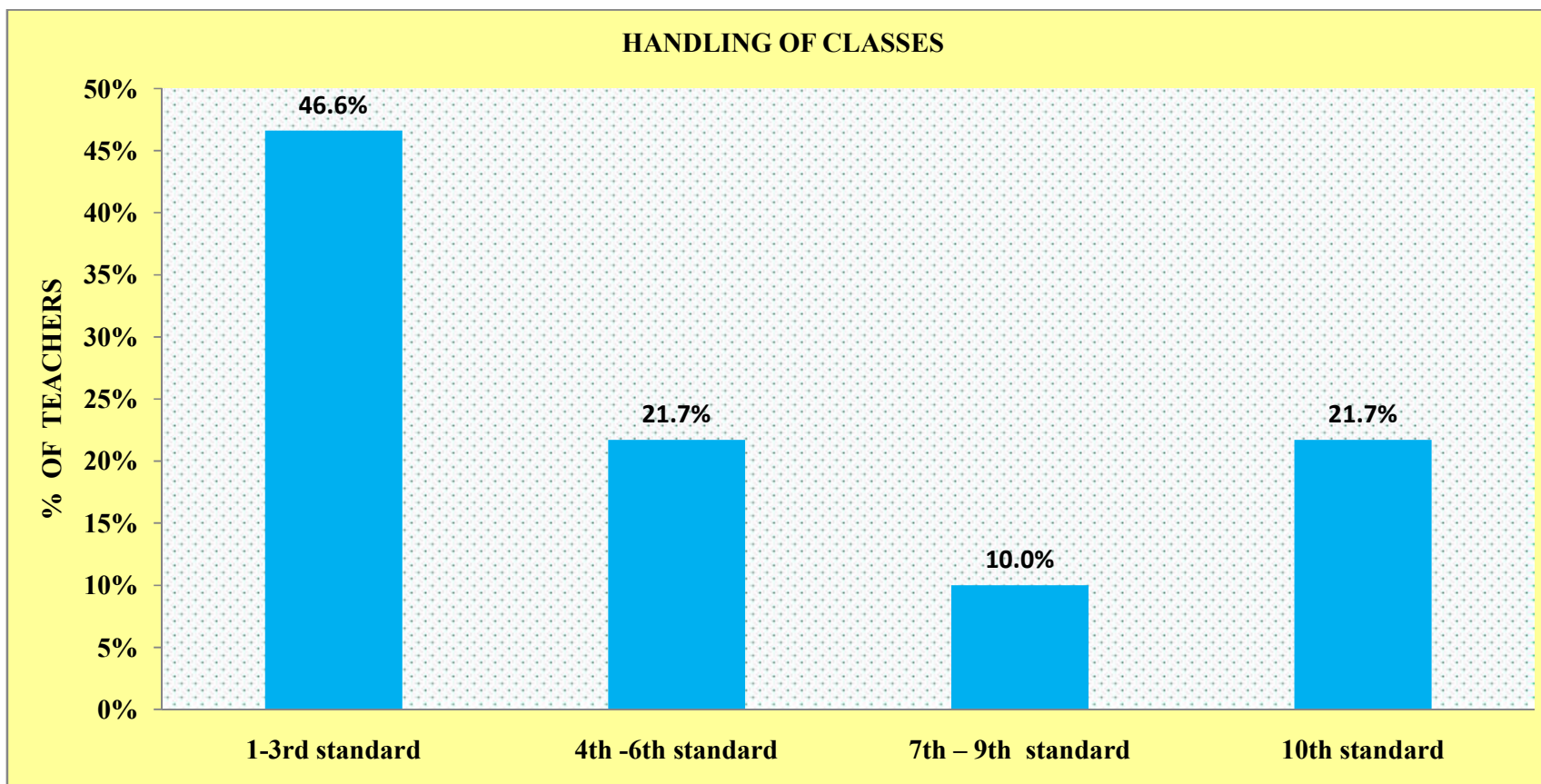


FIG.4.8,HANDLING CLASSES OF VARIOUS STANDARDS OF TEACHERS

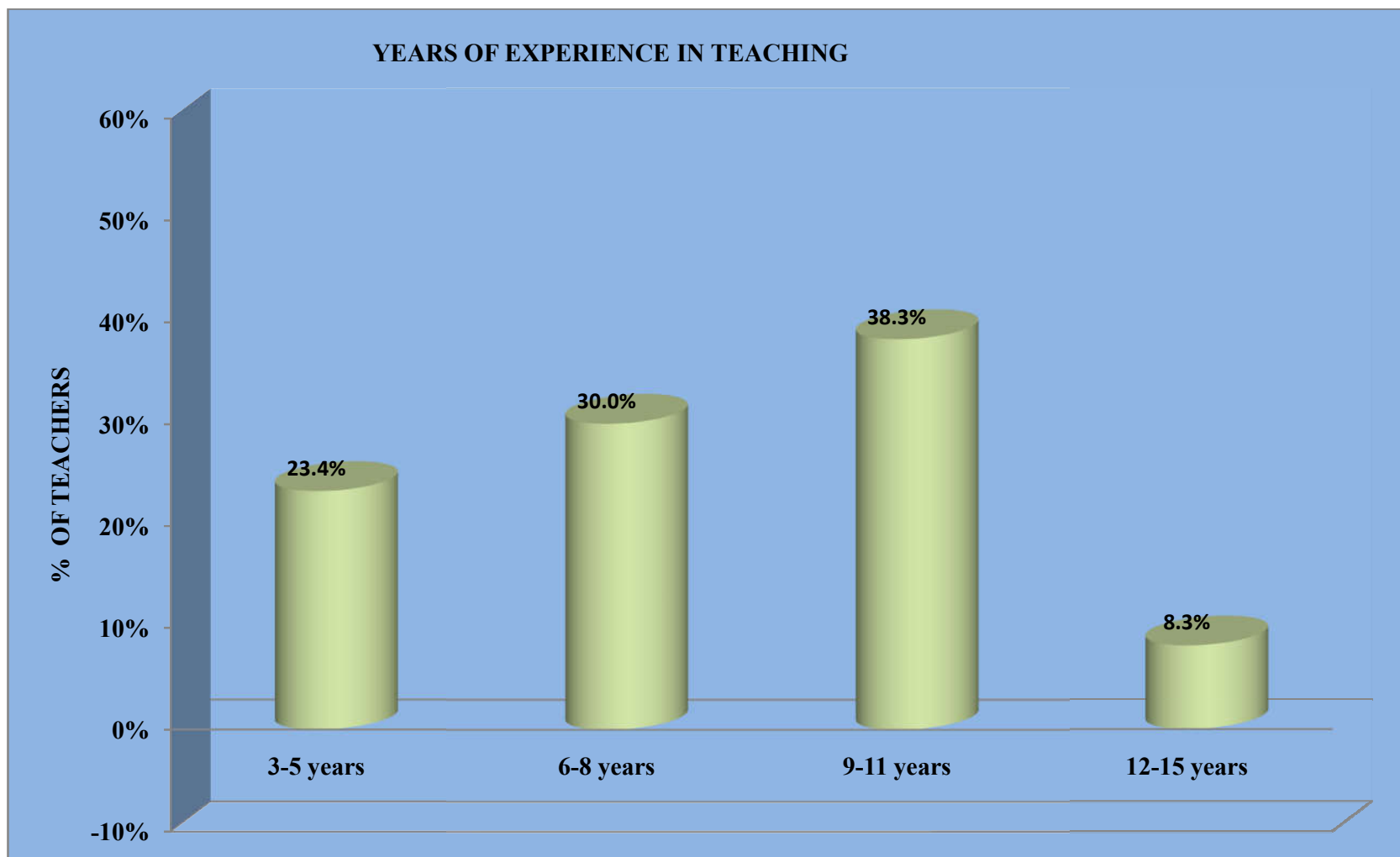


FIG.4.9, YEARS OF EXPERIENCE IN TEACHERS

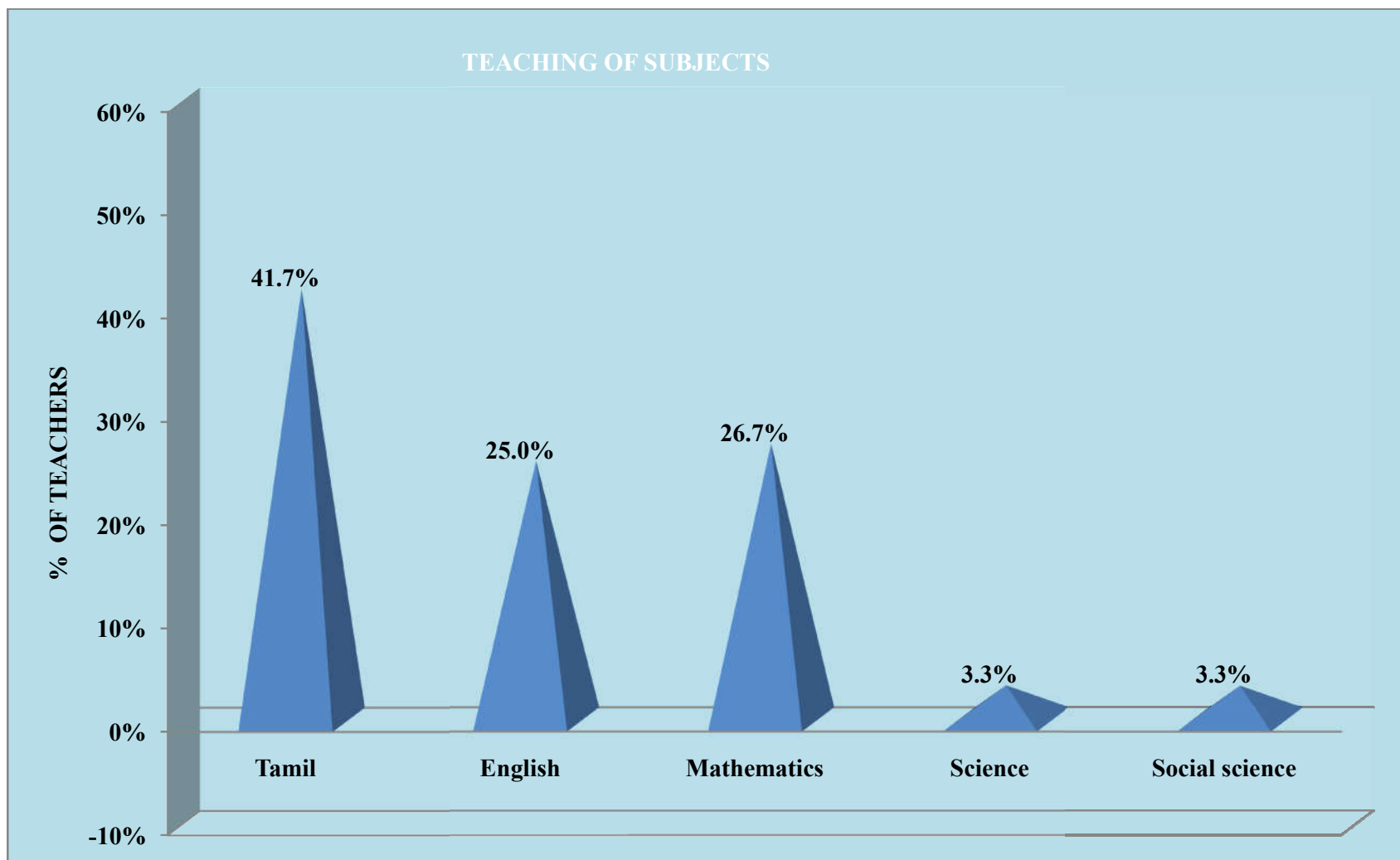


FIG.4.10.TEACHING OF SUBJECTS AMONG TEACHERS

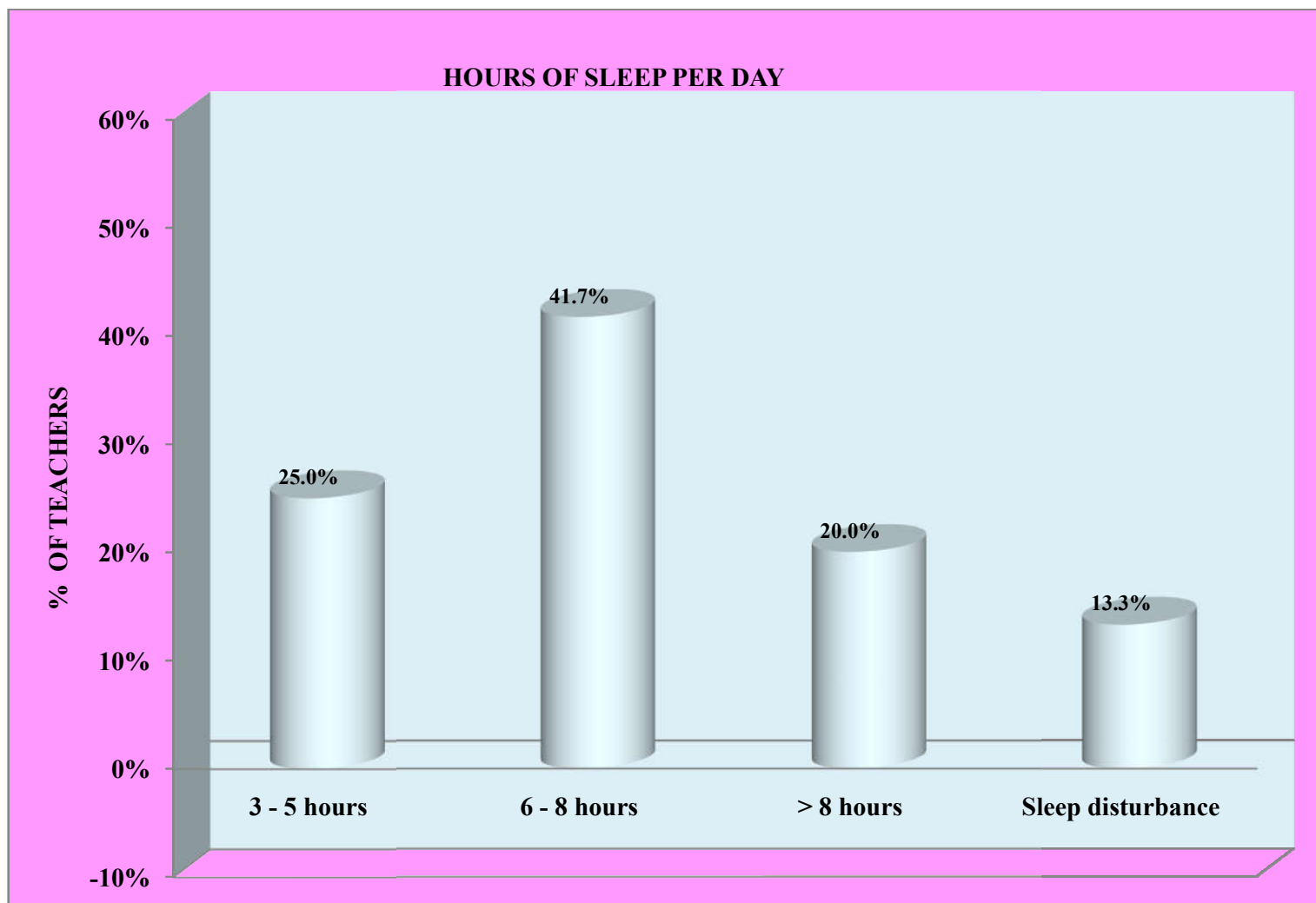


FIG.4.11.HOURS OF SLEEP PER DAY AMONG TEACHERS

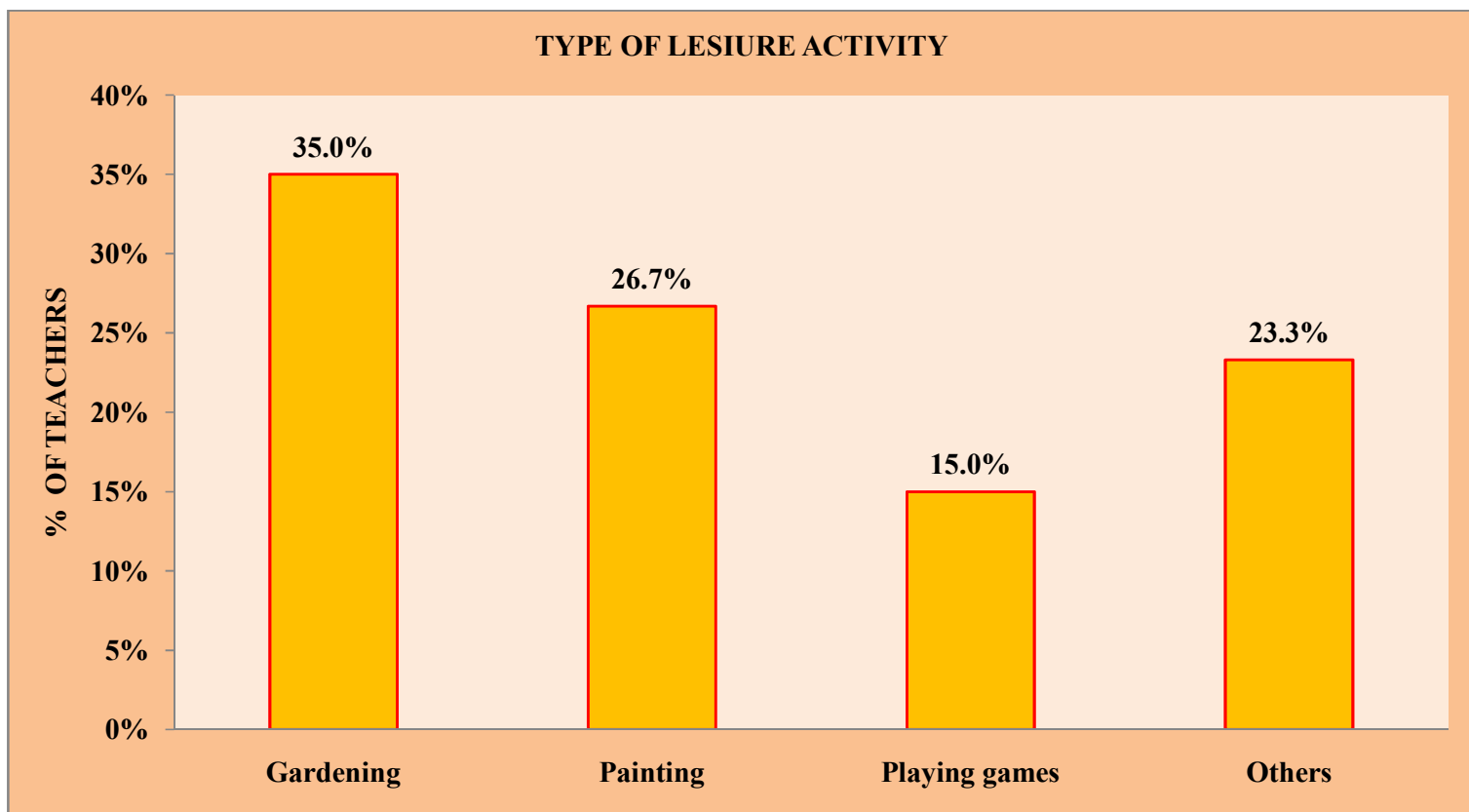


FIG.4.12. TYPE OF LEISURE ACTIVITY AMONG TEACHERS

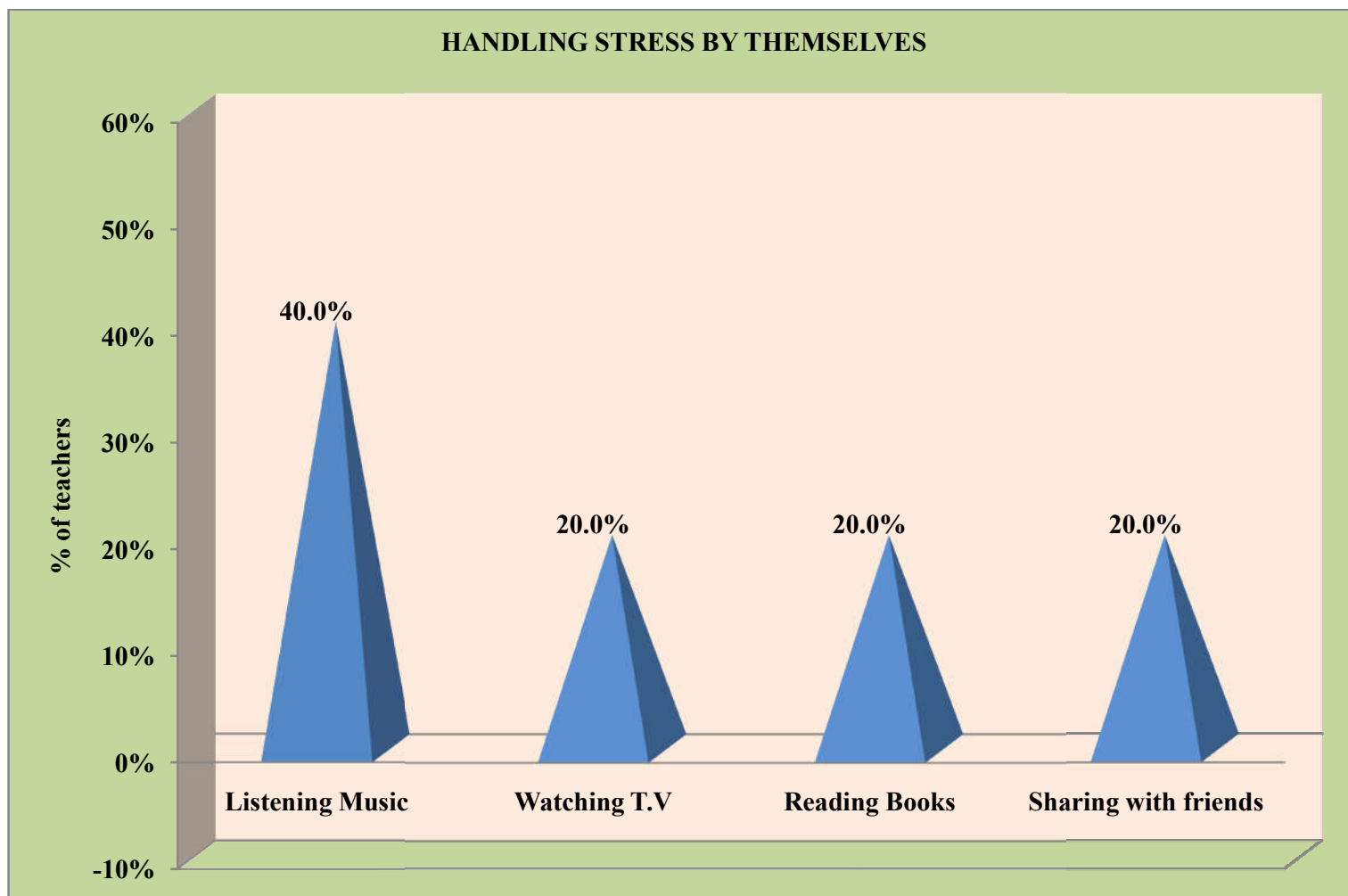


FIG.4.13.HANDLING STRESS AMONG TEACHERS BY THEMSELVES

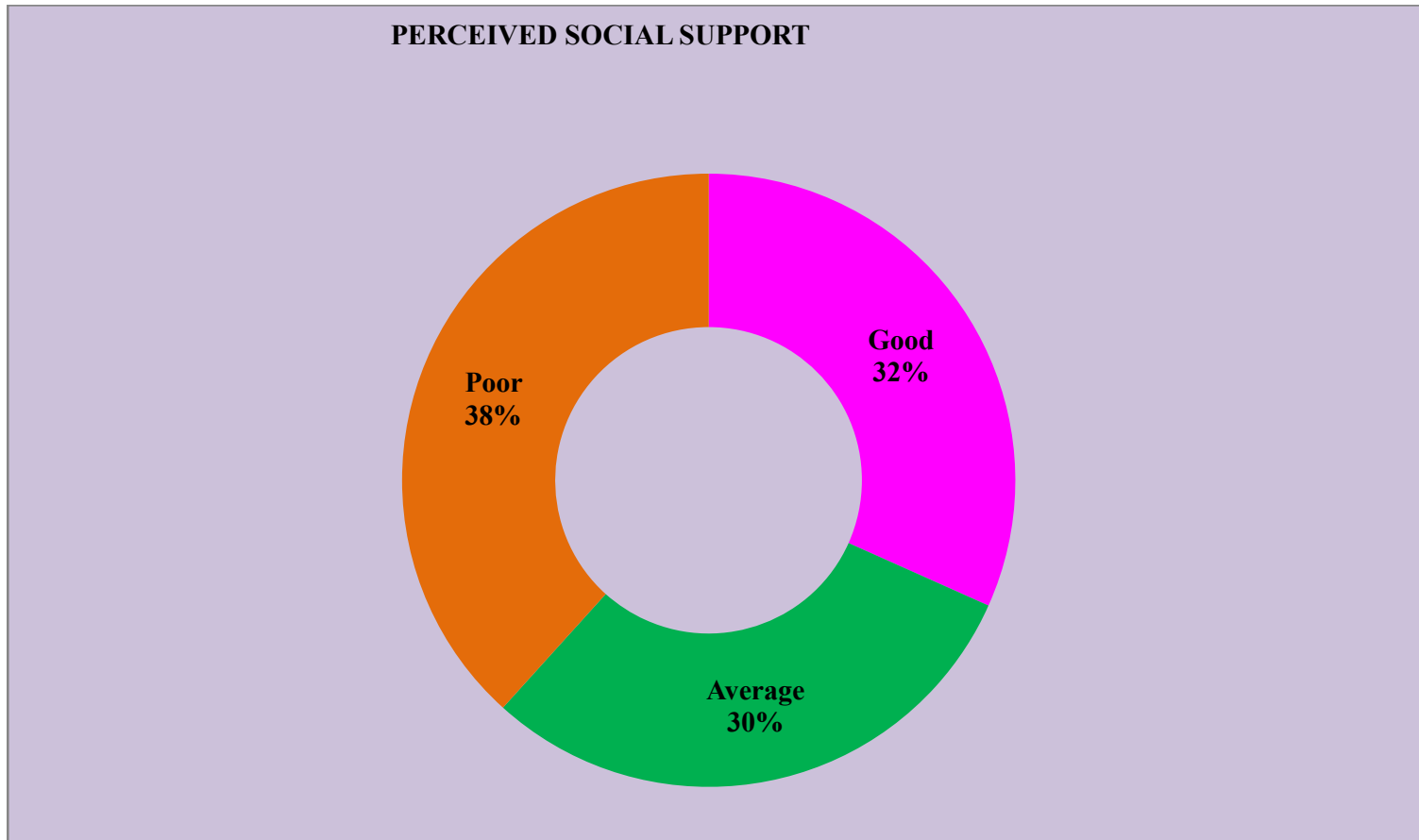


FIG.4.14.PERCEIVED SOCIAL SUPPORT AMONG TEACHERS

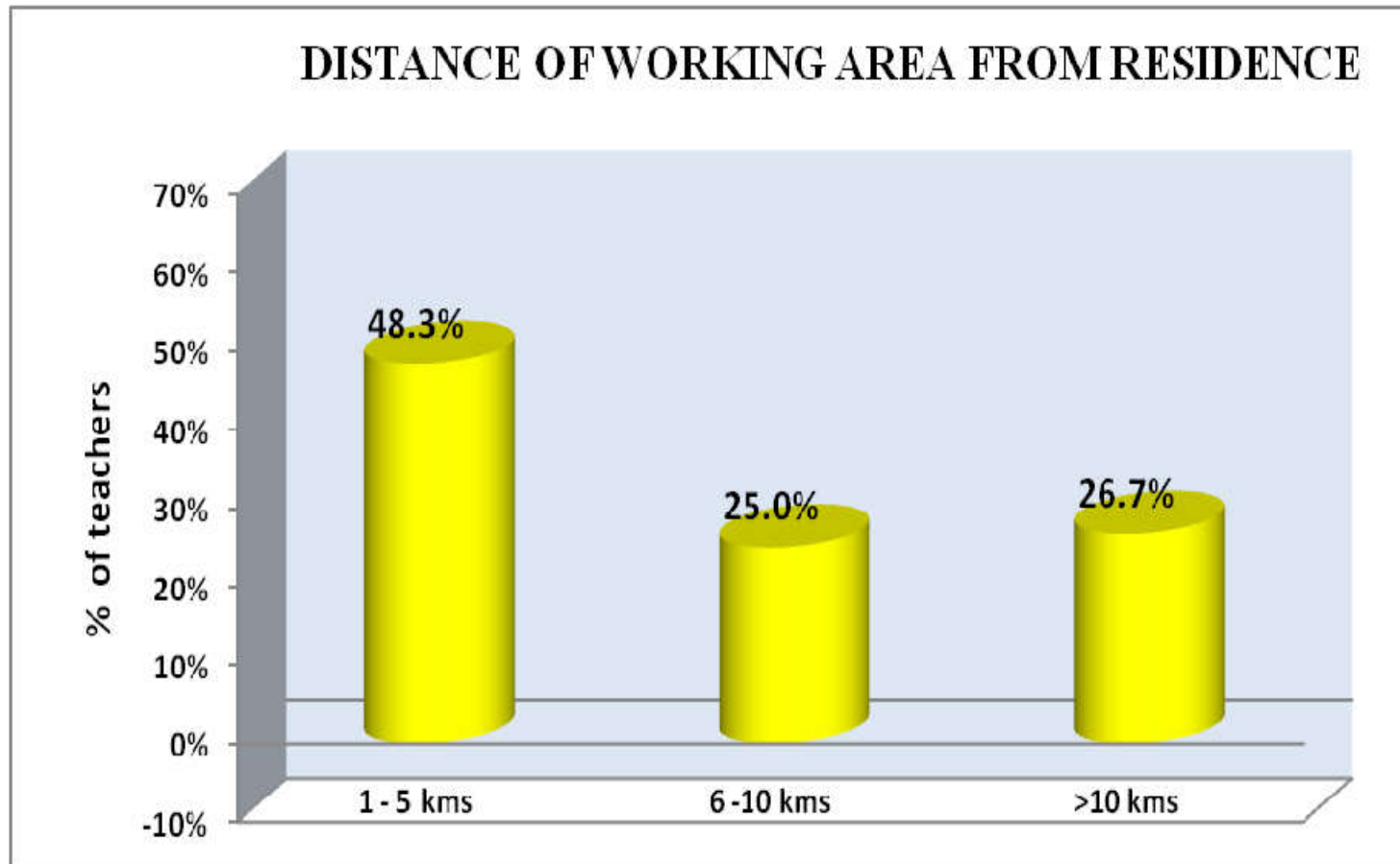


FIG4.15,DISTANCE OF TRAVELS AMONG TEACHERS.

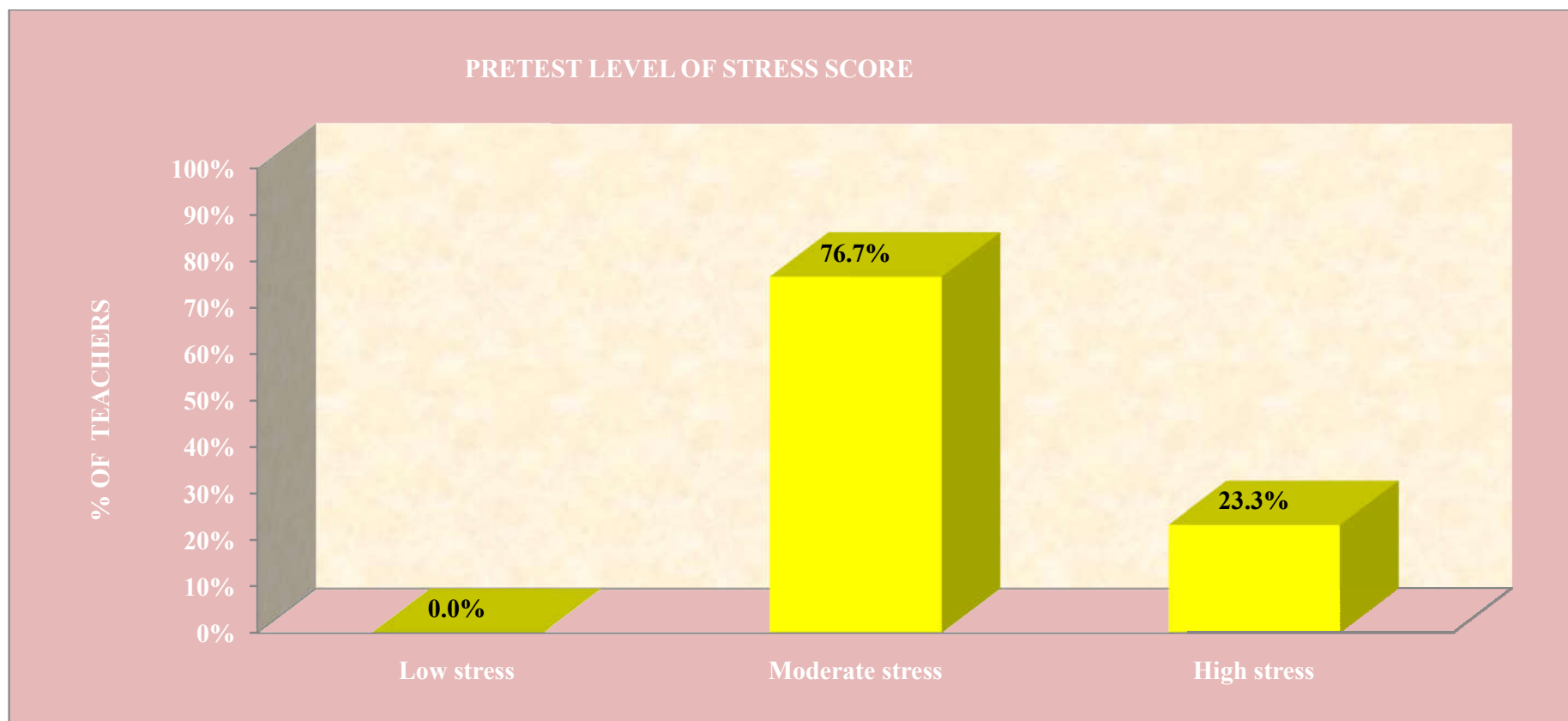
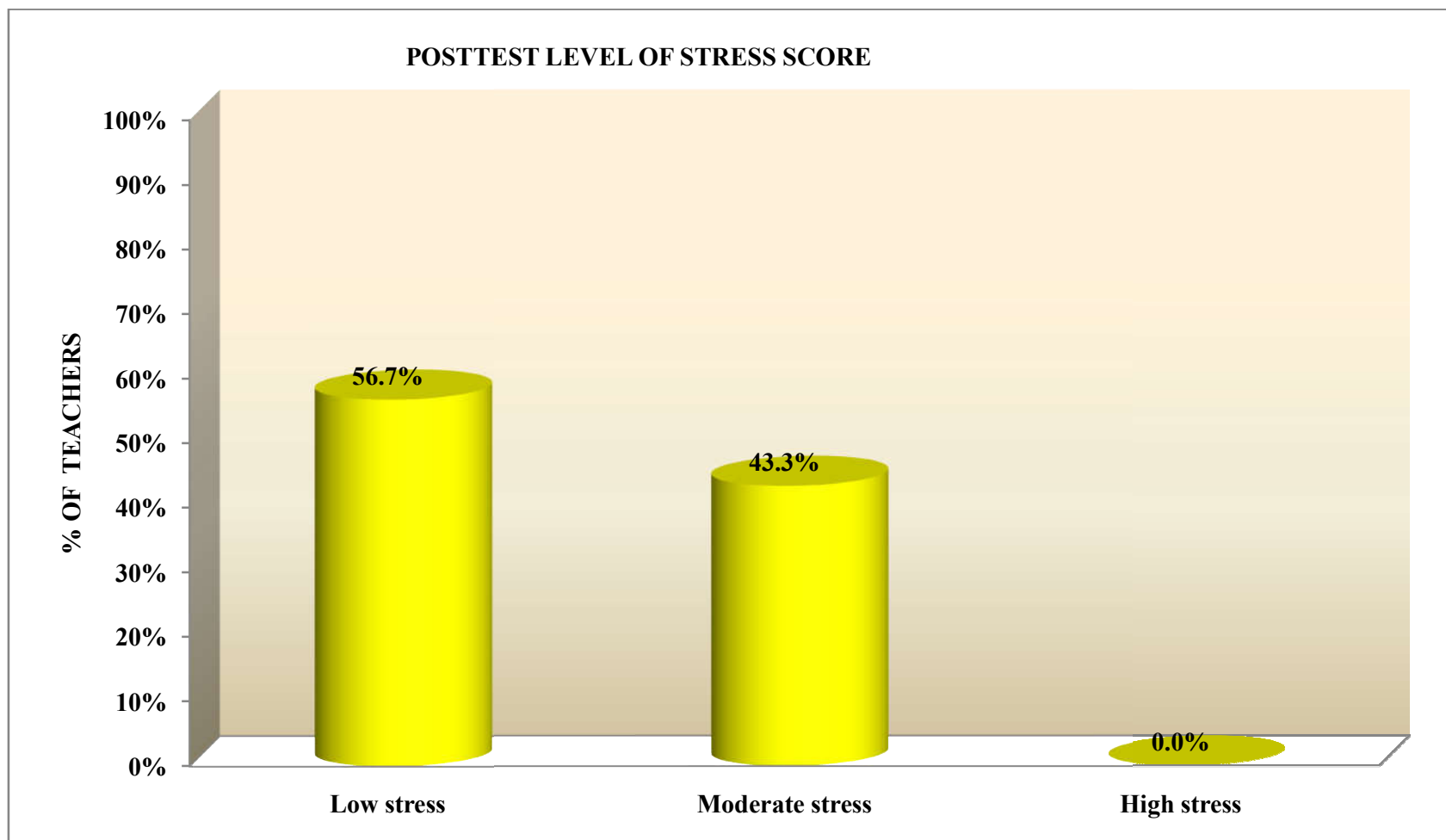


FIG.4.16, PRE TEST LEVEL OF STRESS SCORE AMONG SCHOOL TEACHERS



FIQ.4.17.Post Test Level of Stress Score

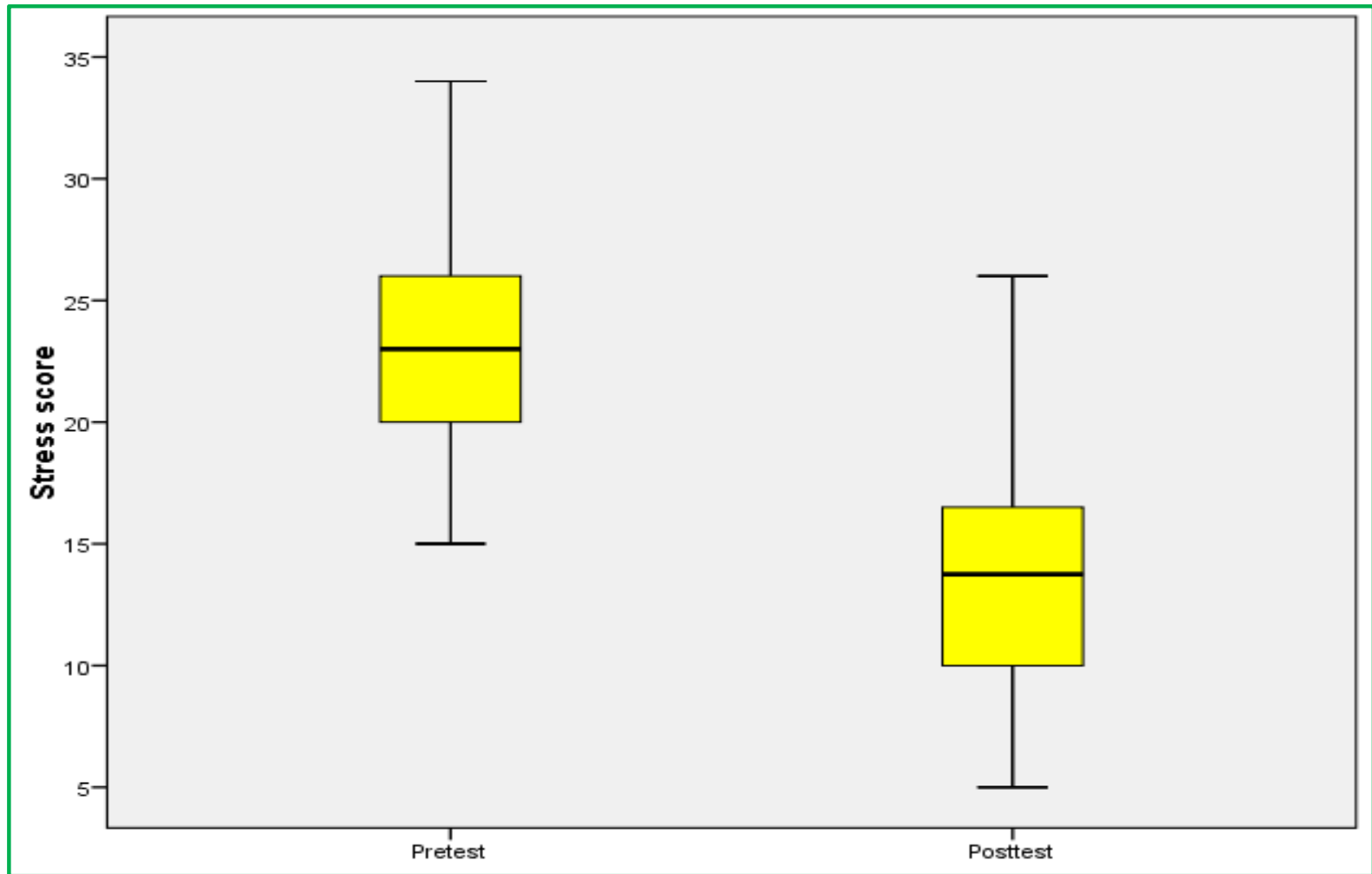


FIG 4.18: BOX PLOT COMPARES THE SCHOOL TEACHERS PRE TEST AND POST TEST STRESS SCORE

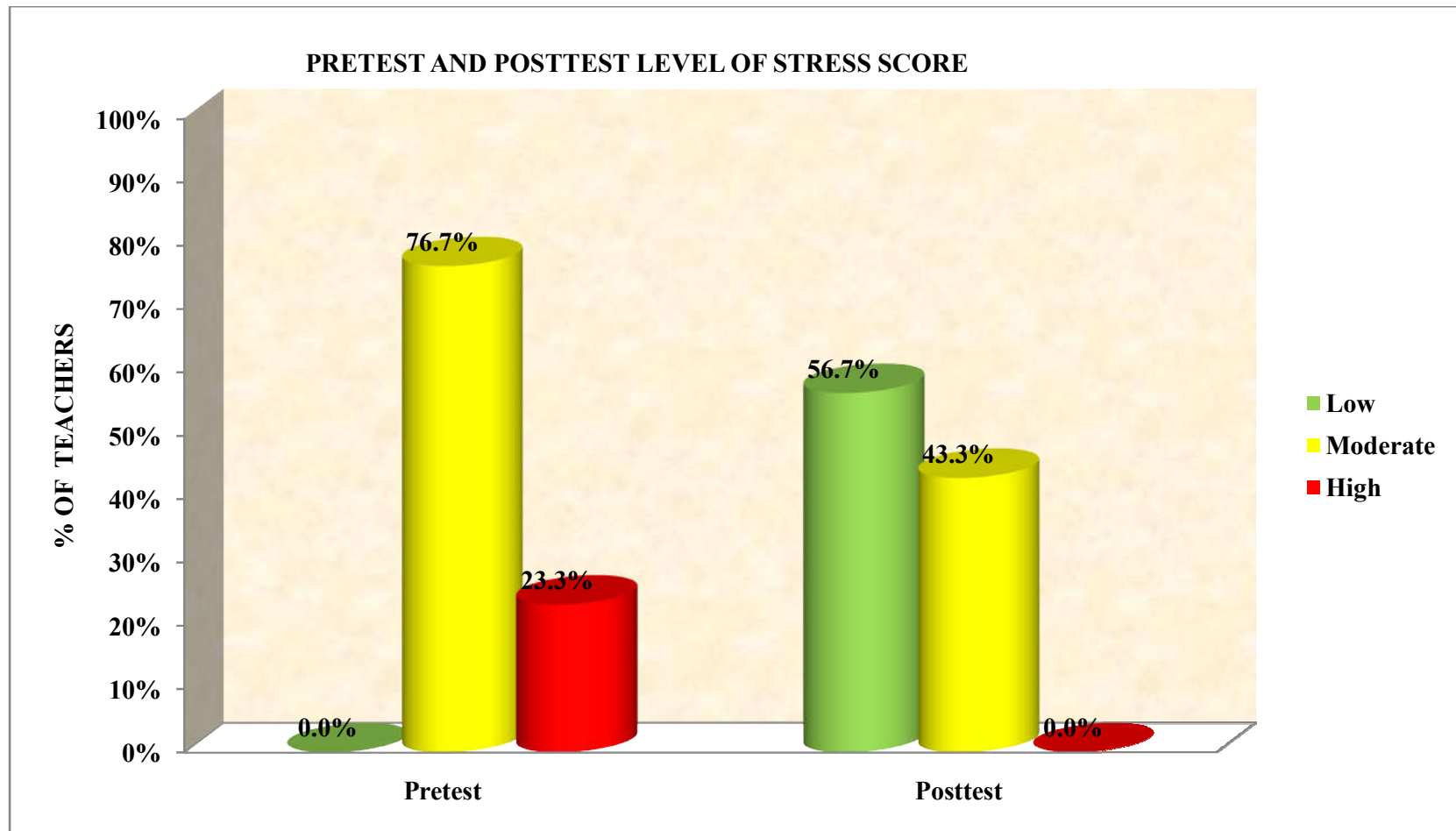


FIG.4.19, PRE TEST AND POST TEST LEVEL OF STRESS SCORE AMONG SCHOOL TEACHERS

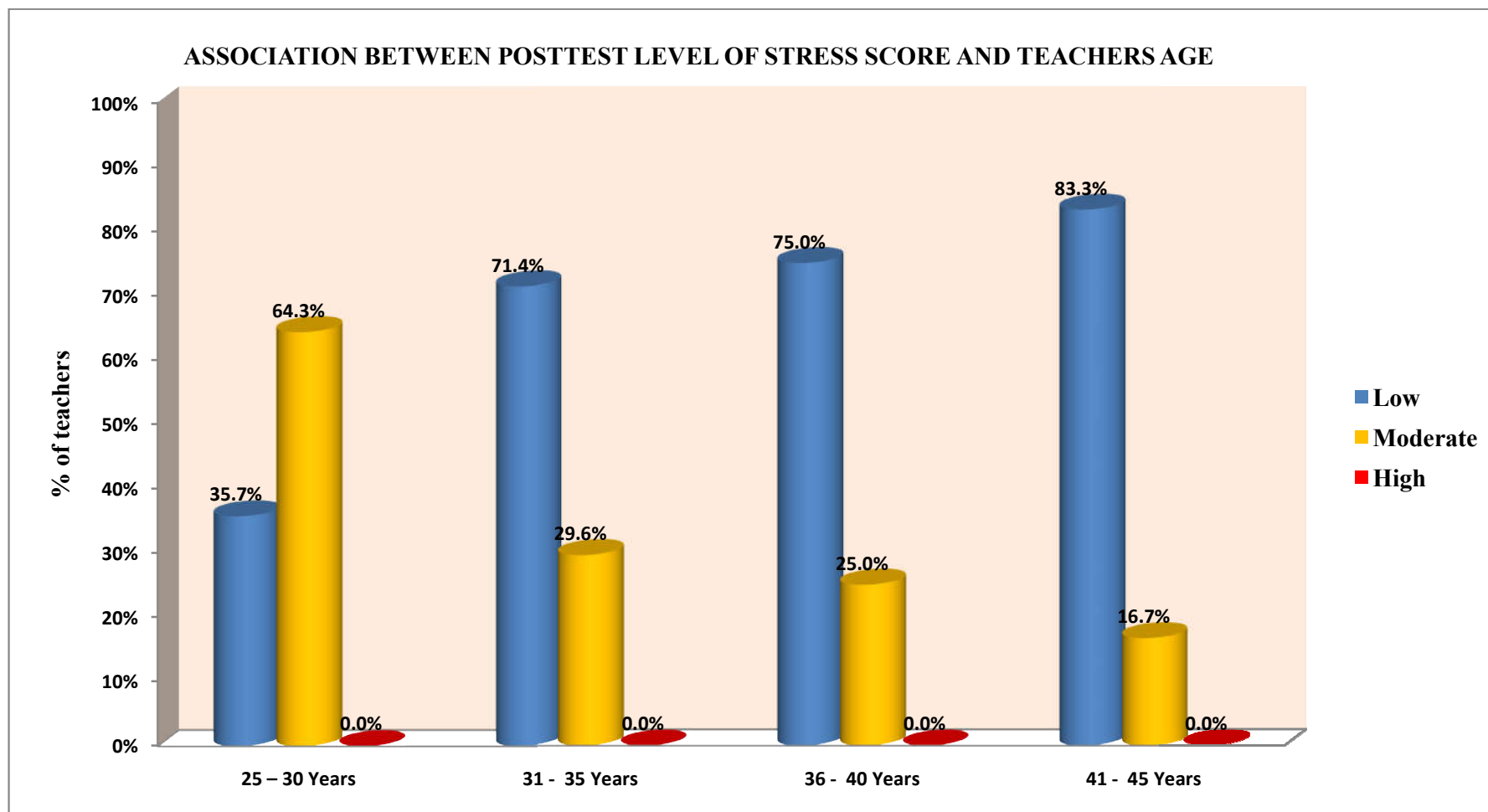


FIG.4.20, ASSOCIATION BETWEEN POSTTEST LEVEL OF STRESS SCORE AND TEACHERS AGE

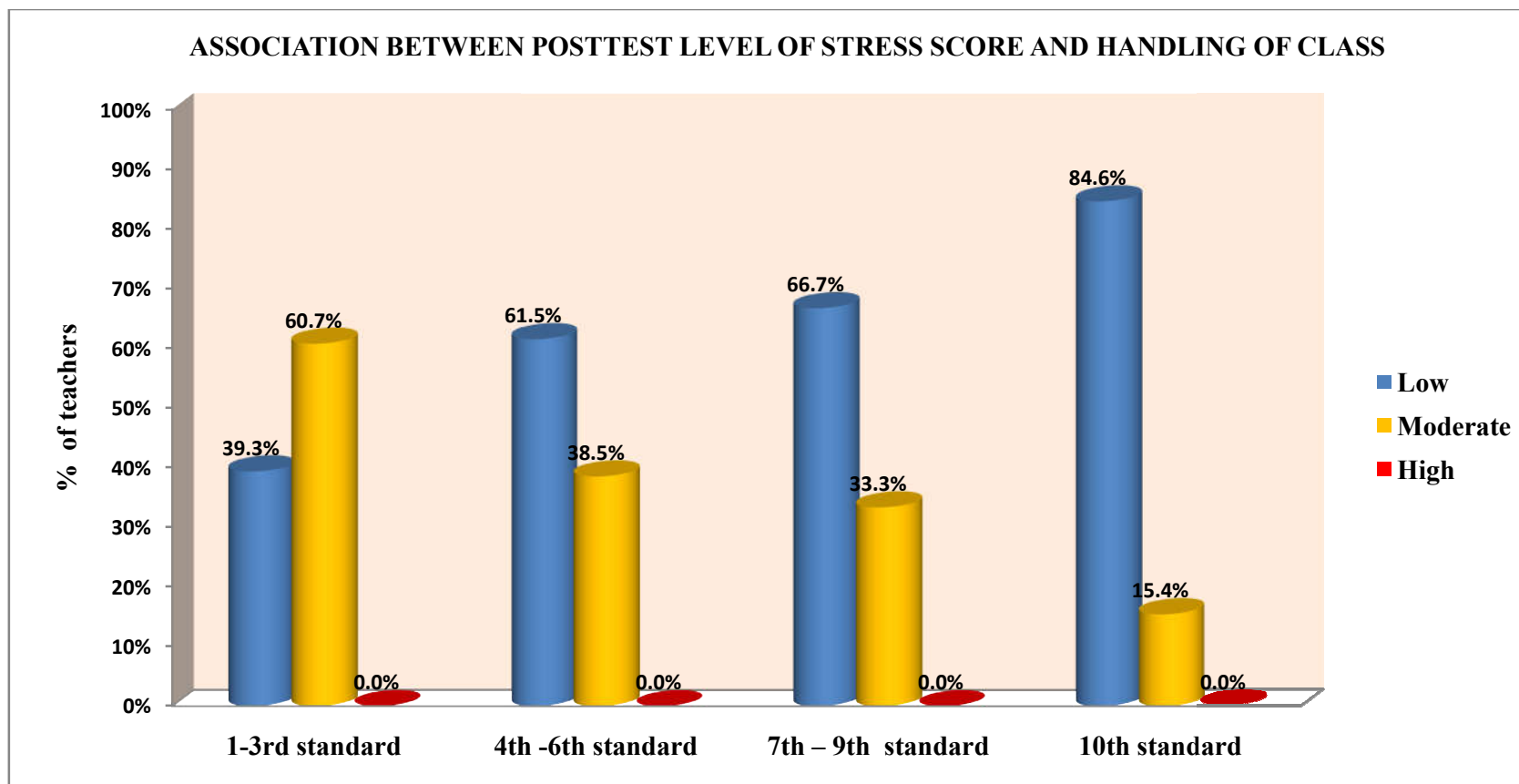


FIG.4.21,ASSOCIATION BETWEEN POSTTEST LEVEL OF STRESS SCORE AND HANDLING OF CLASS

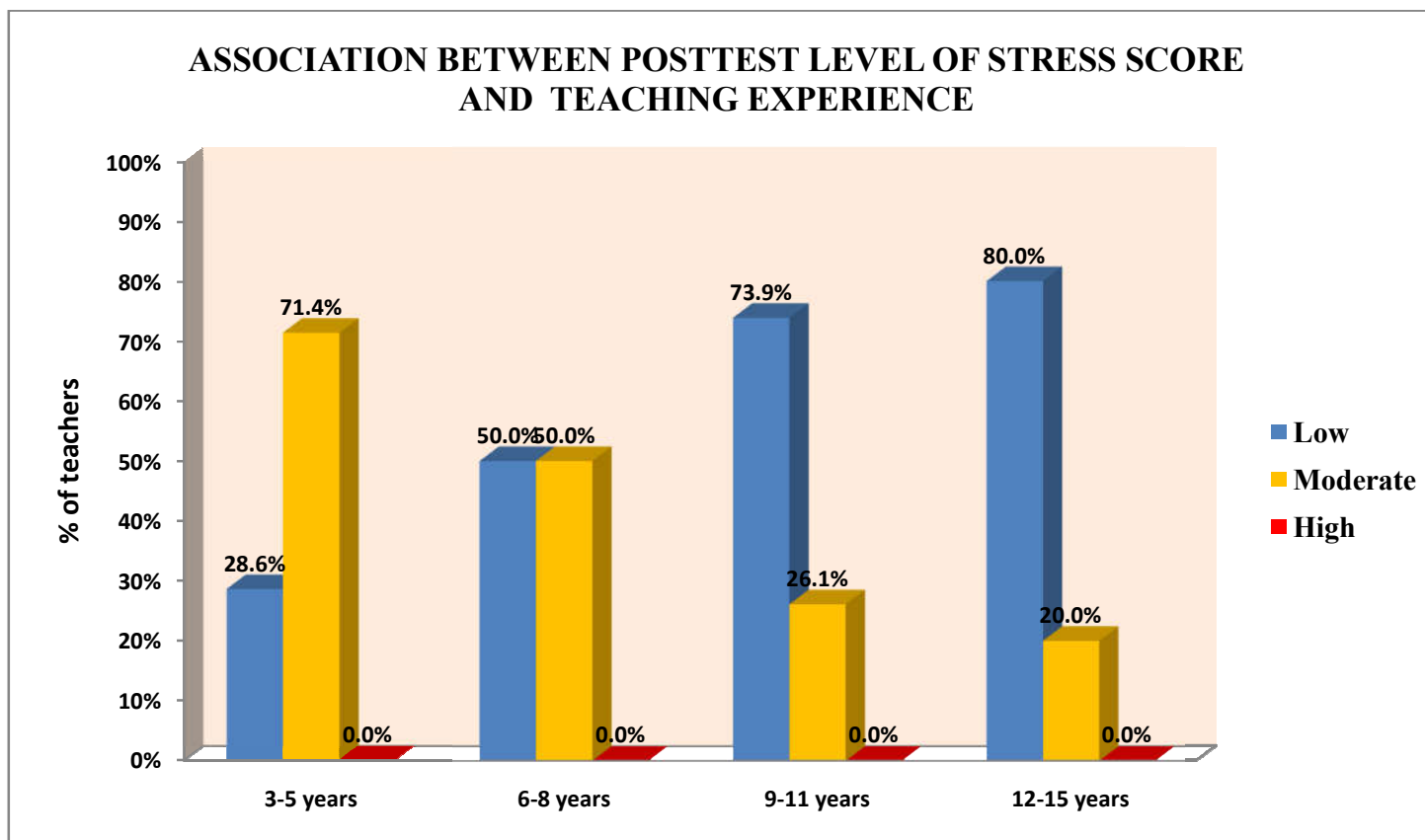


FIG.4.22,ASSOCIATION BETWEEN POSTTEST LEVEL OF STRESS SCORE AND TEACHING EXPERIENCE

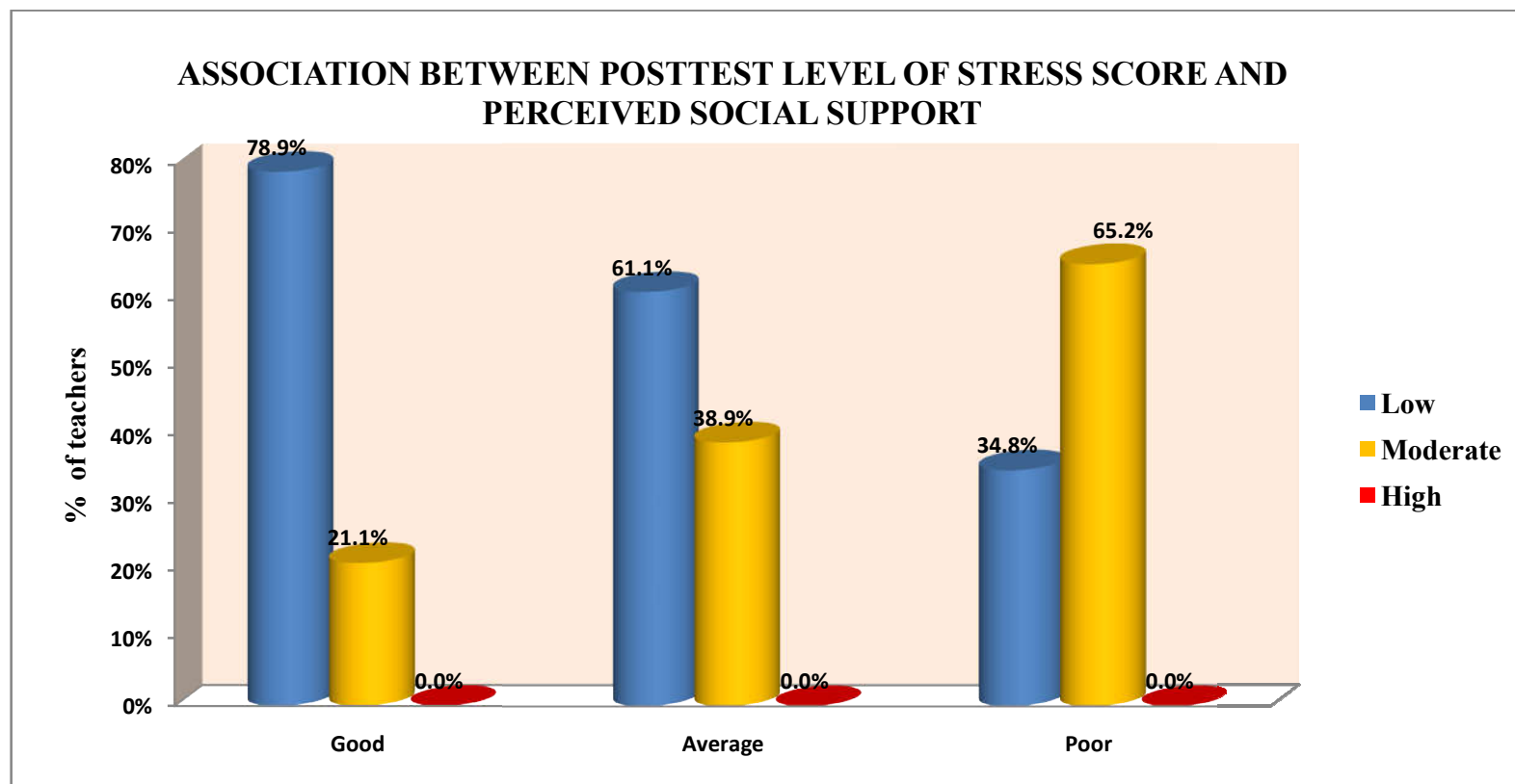


FIG.4.23,ASSOCIATION BETWEEN POSTTEST LEVEL OF STRESS SCORE AND PERCIEVED SOCIAL SUPPORT

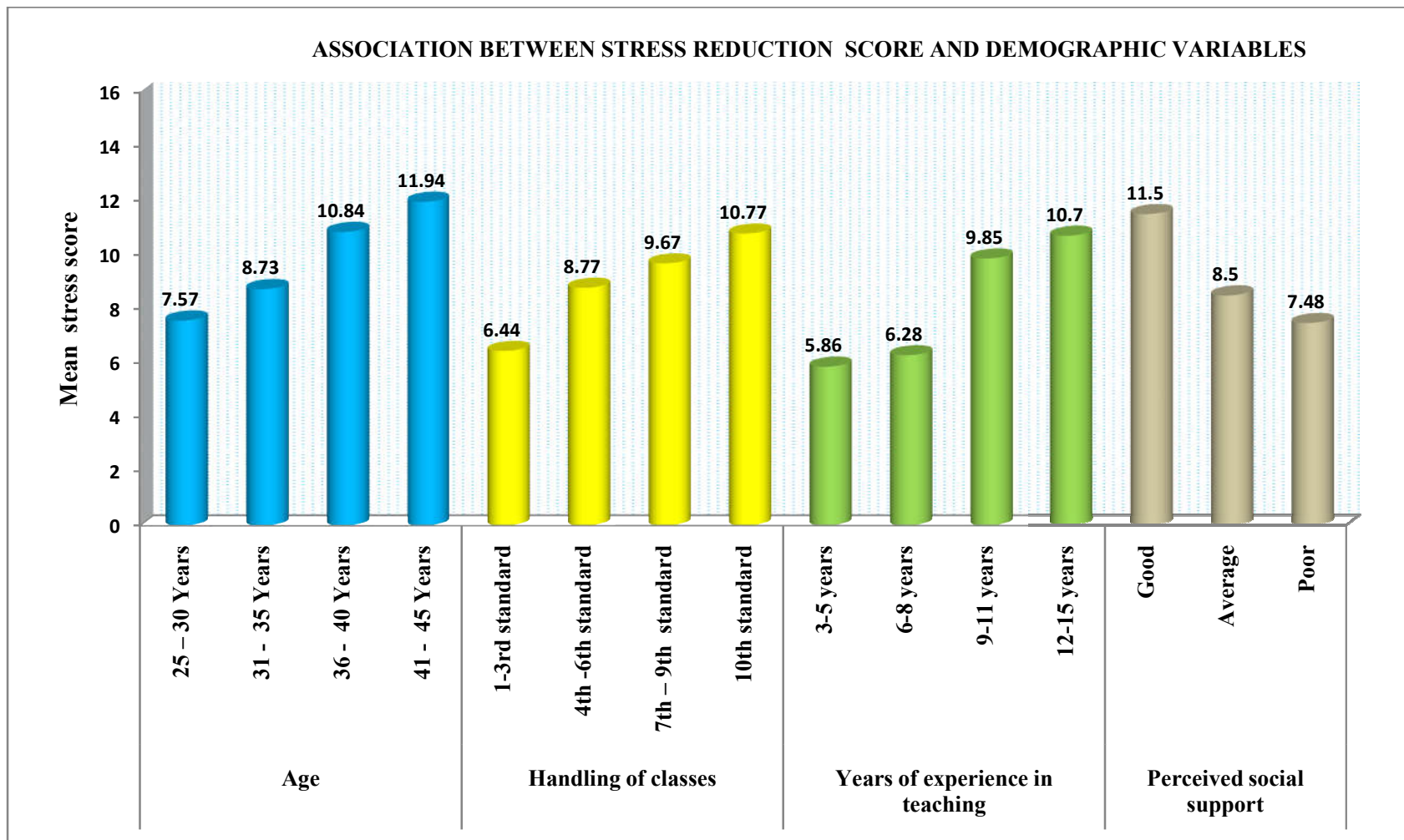
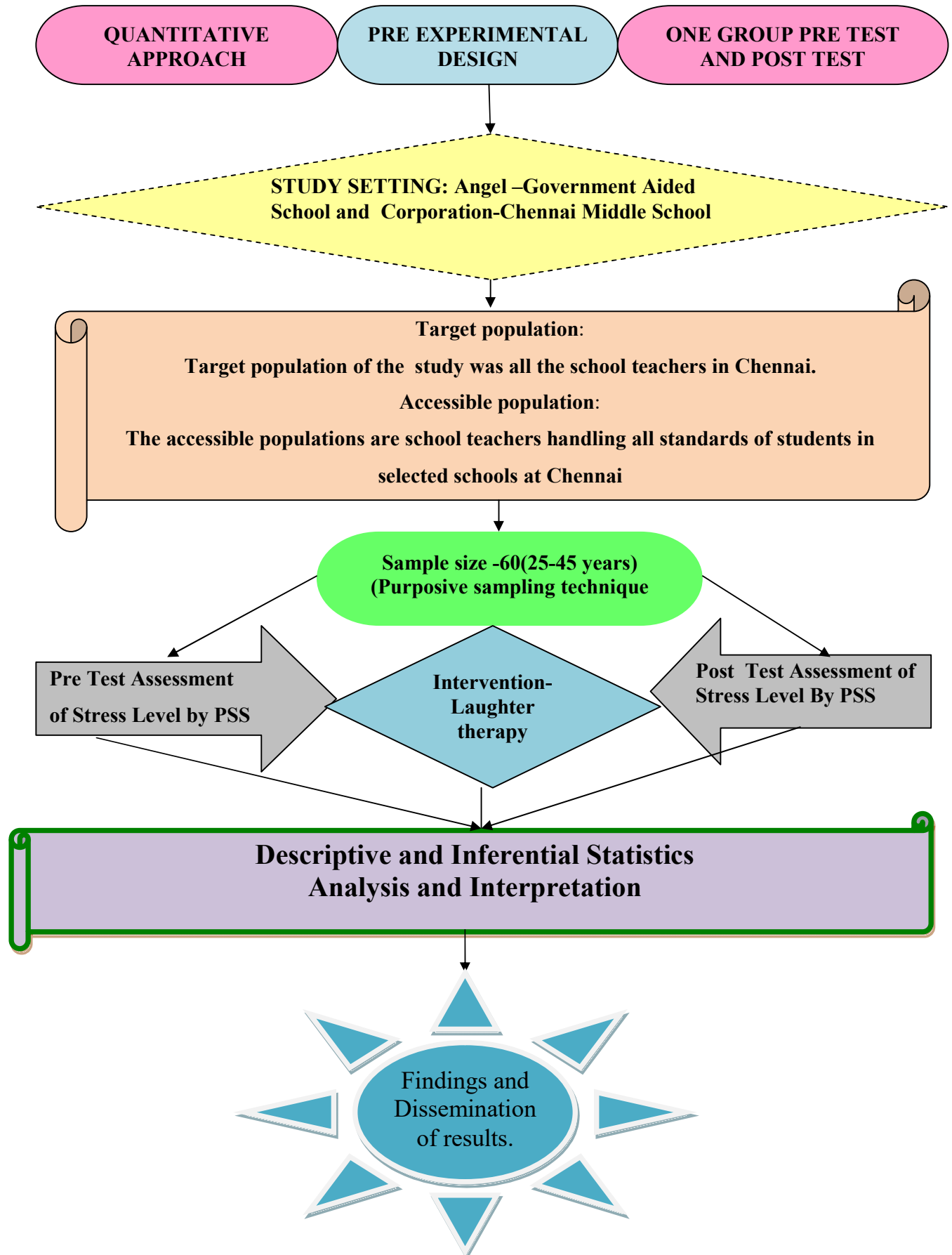


FIG.4.24,ASSOCIATION BETWEEN STRESS REDUCTION SCORE AND DEMOGRAPHIC VARIABLES

FIG 3.17: SCHEMATIC REPRESENTATION OF RESEARCH STUDY
DISSEMINATION OF RESULT



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